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ABSTRACT

Produced as part of a 5 week workshop on career explorations for 51 bright, middle grade students and 20 teachers, the curriculum guide discusses career education, outlines the workshop experiences, considers the inquiry process, and outlines 60 units on non baccalaureate careers in 15 career clusters. A lack of career education programs with other than a college preparatory emphasis for bright students is said to have led to the workshop which provided teacher inservice training and 3 weeks of pupil experiences in six career clusters. Workshop experiences are reported to have included field trips, simulations, and actual experience with activities such as telegraphy, drafting, and bricklaying. The inquiry process of instruction which utilizes a variety of learning and teaching styles is outlined. The majority of the guide contains the career exploration units of which the tobacco farmer, floral designer, commercial bank teller, and game warden are examples. Units are outlined in terms of career cluster, career, suggested problem, introductory activities, hypothesis, investigation, conclusion, presentation, evaluation, and related disciplines. Appendixes include work preference scales used to evaluate the workshop. (DB)

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HANDS-ON

Career Exploration for Bright Students

NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION / RALEIGH

EC 051 123E

ED 073575

HANDS - ON

CAREER EXPLORATION FOR BRIGHT STUDENTS

Prepared at the
Middle Grades Career Exploration Institute for Teachers of
Children with Exceptional Ability, Charlotte

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Division for Exceptional Children
State Department of Public Instruction
Raleigh, North Carolina
1972

FOREWORD

Currently a great deal of thought and attention is being directed to the concept of Career Education in its broadest connotation at both the national and state level. Persons within and without the educational milieu concerned with and interested in the future directions of the curriculum and the development of the public schools are minutely examining this program. As one studies Career Education, the thought surfaces that many of the ideas and techniques we are talking about are not "new." They are components which educators have long called individualized, self-directed and good teaching strategies. Someone has equated the philosophical goals of Career Education with the old Seven Cardinal Principles of Education. If this is a valid assessment, education has either changed very little in basic conceptual objectives and structure over the past decades or we have yet to achieve these stated goals. Education, to be successful, cannot be static for life itself is not static. The Middle Grades Career Exploration Institute, which produced this publication, was anything but static as it blended the academic areas with career and self awareness and directed this toward the bright child. The results of the integration of the teaching and learning styles and content as developed in HANDS-ON will cause the class to be far from dull and rigid. A new excitement, vitality and awareness of the real world will evolve.

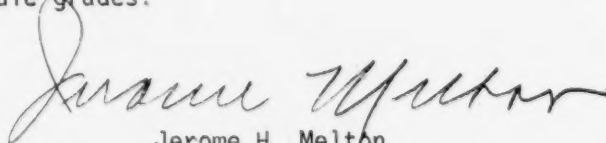


A. Craig Phillips
State Superintendent of Public Instruction

What is Career Education? How will this concept be inaugurated into the public schools? These and other questions plague many sincere people who are disturbed and/or misunderstand the meaning of this new emphasis in education. Doubts resulting from misinterpretation have elicited such statements as, "You're trying to make all third graders into brickmasons!" Nothing could be farther from the truth.

Career Education at the grade level of this publication will acquaint students with knowledge of career options which are available to them through awareness "hands-on" experiences. It will individualize programs, fitting curriculum to the child rather than the child to the curriculum. Career Education is not anti-intellectual as some claim. Students qualified and motivated towards the doctoral program will be encouraged and counseled to move in this direction. Others not so motivated or intellectually endowed will be given the guidance, encouragement and curricular offerings to help them decide their career, whether they leave public schools before the twelfth grade, at the conclusion of their senior year, after attending some other institution for additional study and training, or return to the public school for more work.

In a total public school program, Career Education will permeate every discipline at all grade levels. This publication approaches Career Education from teaching-learning-communication styles emphasizing the Inquiry Process. Each lesson unit is applicable to one or more of the disciplines so teachers of talented children can see how to integrate Career Education activities into academic areas within the middle grades.



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Assistant Superintendent for Program Services

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ACKNOWLEDGMENTS

This institute was possible through the efforts of dozens of people in Raleigh, in Charlotte and across the State of North Carolina. The people most responsible for the actual planning and support are enumerated in the Introduction. In addition, our thanks must go to Dr. William Self, former superintendent of the Charlotte-Mecklenburg Schools, who generously allowed us to use school facilities and permitted Mrs. Stovall to direct this project without reimbursement. Mrs. Anne Mills, her efficient secretary, frequently was pressed into service for things which she did willingly and well. After Dr. Self left the system, support came from Dr. Leslie Bobbitt, Dr. Everett P. Cameron, and Mr. E. E. Waddell. Valuable advice and suggestions were made by Miss Dorothy Boone, Miss Rose Jennings and Clifford Moses, administrators of the Occupational Education division for the school system. Mr. Morgan McKinney, Miss Frances Ryan and Mrs. Nancy Burgess, teachers in the same division, acted as consultants. Mr. McKinney also provided many of the tools and techniques used during the three weeks of student activities. Mrs. Suzanne Foster was the personable institute secretary who, we discovered, was not only an excellent secretary, but also a fine music teacher and led the children in singing work songs.

Both newspapers, THE CHARLOTTE OBSERVER and THE CHARLOTTE NEWS, carried descriptive and photographic articles several times. Television stations WSOC (Channel 9) and WBT (Channel 3) sent cameramen and crews out on five occasions. In other words, the institute, because of the great interest in education in the Metrolina area, received a "good press." Mrs. Dorothea Lakin and Mrs. Joan Wayne from the University's Institute for Urban Studies and Community Service made our stay in Sanford Hall very pleasant. The dormitory counselor, Miss Marion Beane, was always helpful, pleasant and cooperative. Chancellor D. W. Colvard graciously assisted this innovative project by putting the full facilities of the University at our disposal. Without Dean John Chase, many doors would have remained closed to our teachers. He is a man who can move mountains!

The following businesses and school divisions gave freely and willingly of their services to make this project the success it was:

- Associated General Contractors
- Associated Grocers Mutual
- Belk Store Services
- Central Piedmont Community College
- Guidance Department - Charlotte-Mecklenburg Schools
- Holiday Inn - Little Rock Road
- Independence High School
- Knight Publishing Company
- Metropolitan Campus
- National School of Heavy Equipment
- Ralph Squires Construction Company
- Shaw Furniture Manufacturing Company
- Skyline Mobile Homes
- Southern Bell
- WBT

The parents of the fifty-one students cooperated in getting the children to Harding and in taking materials and tools to school to add to the interest centers.

Last but not least, without these twenty outstanding teachers, none of HANDS-ON would have been produced. This fine group met as strangers, discovered their mutual interests and talents by working together, conducted themselves as true professionals, and blazed a trail in North Carolina education for Career Education Exploration for Bright Students.

Miss Peggy Joyce Anders
Sampson County

Mrs. Brenda Spangler Cook
Cleveland County

Miss Mamye Jean Anthony
Warren County

Mrs. Elizabeth Ann Grinton
Wilkes County

Mrs. Elizabeth Jane Avery
Madison-Mayodan City

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Mooresville City

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Chatham County

Miss Lynda Lee Reighard
Buncombe County

Miss Rebecca Locke Clark
Cumberland County

Mrs. Leah A. Woodall
Harnett County

Mrs. Jane Ferrell did the final typing and correcting of the finished product.

Cornelia Tongue

AN INTRODUCTION: CAREER EDUCATION AND THE BRIGHT STUDENT

Interest in and emphasis upon Career Education is nationwide. Dr. Sidney P. Marland, U. S. Commissioner of Education, has placed this at the top of the priorities in his office. President Richard M. Nixon personally has given his wholehearted support to this effort. The North Carolina Board of Education and Dr. A. Craig Phillips, the State Superintendent, have listed Career Education for all children as the number one priority in this state. This emphasis has given rise to many questions in the minds of both professionals and laymen in all areas of North Carolina. However, some of these questions must remain unanswered at present. The questions fall into six large categories:

1. Why is there the need, the interest, the emphasis on Career Education?
2. What is Career Education?
3. How can Career Education be implemented?
4. When will Career Education be implemented?
5. Where will Career Education be implemented?
6. Who will be involved in this implementation?

In the early seventies it has become popular, even fashionable, to attack public education, to claim that our schools have failed us, to exclaim that they are not doing "the job," to strike out in all directions against the educational structure. Some of these accusations have some validity. But no thinking person could lay the societal problems of today solely on the doorstep of the schoolhouse.

Perceptive educators realize that many schools and their programs have not grown and/or modified with the rapidly accelerating changes of today. Volatile issues and societal problems--abuse of the environment, taxation policies and governmental use of tax revenues, social injustices, pollution and new value systems not created by the schools must be solved through thoughtful education. Too many programs resemble classes of fifteen or more years ago while society today is far different from that of past decades. Many schools pay lip service to individualizing instruction but in reality try to teach all children from the same text, at the same time, using the same methods. Since no two individuals are exactly alike in abilities, interests, appearance and experiences, this technique is doomed to failure from its very inception. The concept of "education for all" has frequently become the "same education for all."

Statistics show that schools need to bring about changes, not only for society, but also for their very existence.¹

¹Figures given at the Conference for Administrators at the University of Georgia at Athens, June 12-16, 1972, and derived from statistics by Commissioner Marland's office.

- Some 750,000 high school graduates leave the public schools yearly with no saleable skill.
- Since 1967 some 850,000 students have dropped out of college.
- Ninety percent of parents aspire for college for their children, and eighty percent of the students take college preparatory courses.
- Only forty percent of high school graduates enter college, and of these, seventeen to twenty percent graduate.
- Most high unemployment rates result from skills not matching the jobs of today.
- Most people entering the job market today will change jobs six to eight times during their lifetime.
- Ninety percent of the women will work outside the home at some time.

Many educators feel that Career Education is the concept, the focus and means through which many of the needed changes in education can be activated. No one has yet devised a commonly accepted definition of Career Education. All advocates agree that it is not a fad. If educators do not control and direct this new thrust, loud and clear warnings are given that others will do it.

Career Education is a process through which students gather information about self and the social and economic environment as a basis for determining their life style. All students can benefit from this program. Through Career Education the student will be able to:

1. identify his interests, aptitudes and abilities and compare these with possible alternatives for using human and material resources in the pursuit of goals within and beyond the school environment;
2. describe the knowledge and skills attained through an "interlocked" or interdisciplinary curriculum that will prepare him for realistic career decision making;
3. identify personal constraints and restraints that he will encounter in attaining career goals;
4. recognize that "graduation" is the attainment of a level of proficiency which enables a person to pursue career goals.

Career Education involves all disciplines. It is not another course added to the already full curriculum. It is not Vocational Education or Occupational Education, for the concept is much broader than this. Students will become aware of career opportunities and options in all classes; they will not be forced into a vocational track or a career they oppose. The concept is a K through 12 plus program which will require revision of the total curriculum and textbooks, the re-education of administrators and teachers,

and a restructuring of the school system, making the use of time broader and more flexible. A major goal for implementation of the concept is the elimination of the artificial separation between the academic areas and the occupational areas. School will become relevant to life today and relevant for the future for the student. Guidance and counseling will play a much larger role in the school than is played today. "Dropouts," as educators conceive the concept, will be eliminated, for some students will go from school into a job before the twelfth grade. Other students will go to work after receiving the doctoral degree. A skills credential will become as valid as a degree. The program will be highly individualized. After "graduating" from school at whatever grade or level, many people will return to some kind of school for additional educational experiences at some point or points along the continuum of their lives. Many teaching, learning and communication styles will be brought into play as this concept is implemented.

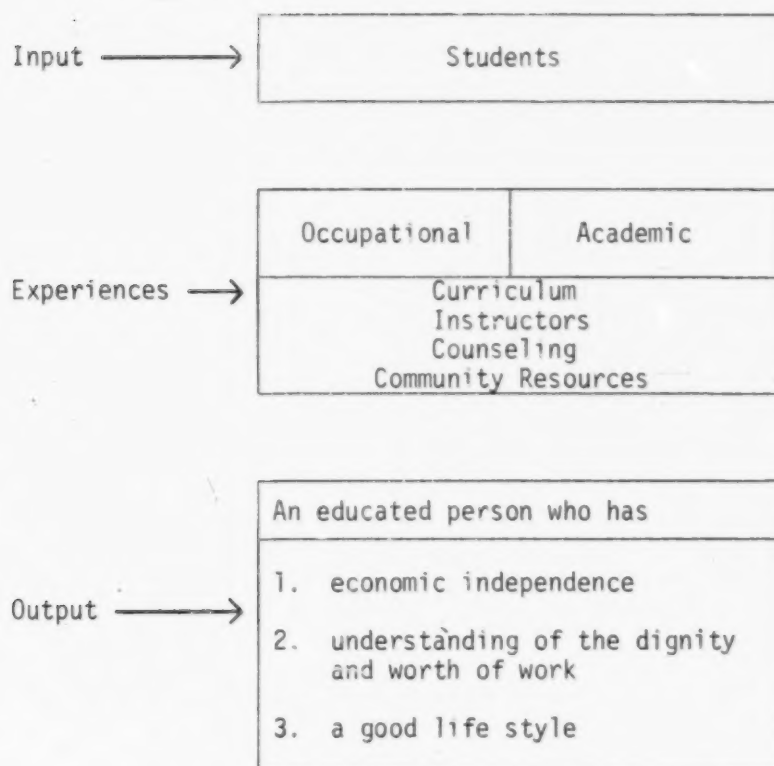
Communication is an essential and major key to the success of the entire program. Misunderstandings of the objectives of the program must be rectified; purposes must be explained. The present poor attitude toward the world of work and the dignity of working must be changed to the concept of the worth of work. The different kinds of work will gain in status. The occupation will be judged by its contribution to society. Career Education involves more than just experiences within the public schools. It involves society at large. Such non-public school persons as school-industry coordinators can be brought into the program to work as mentors or resource persons with whole classes or with individual students. Laymen and educators outside the public schools can be actively involved in the planning and implementation of Career Education in North Carolina. The public media can play an informational role. All of these forces can assist in developing a dialogue between school and the public and help bridge much of the communications gap.

Listed below are the components of Career Education:

- career awareness
- self awareness
- skill awareness
- economic awareness
- decision-making skills
- appreciation of work and a good attitude toward the world of work
- enjoyability skills
- employability skills

The Career Education Program will gain early focus on the world of work and career options. Figure 1 should help explain this new emphasis.

Figure 1



There are many models that attempt to explain Career Education. In fact, there are almost as many of these as there are people working with the concept. The two selected, Chart 1 and Figure 2, are frequently seen examples.

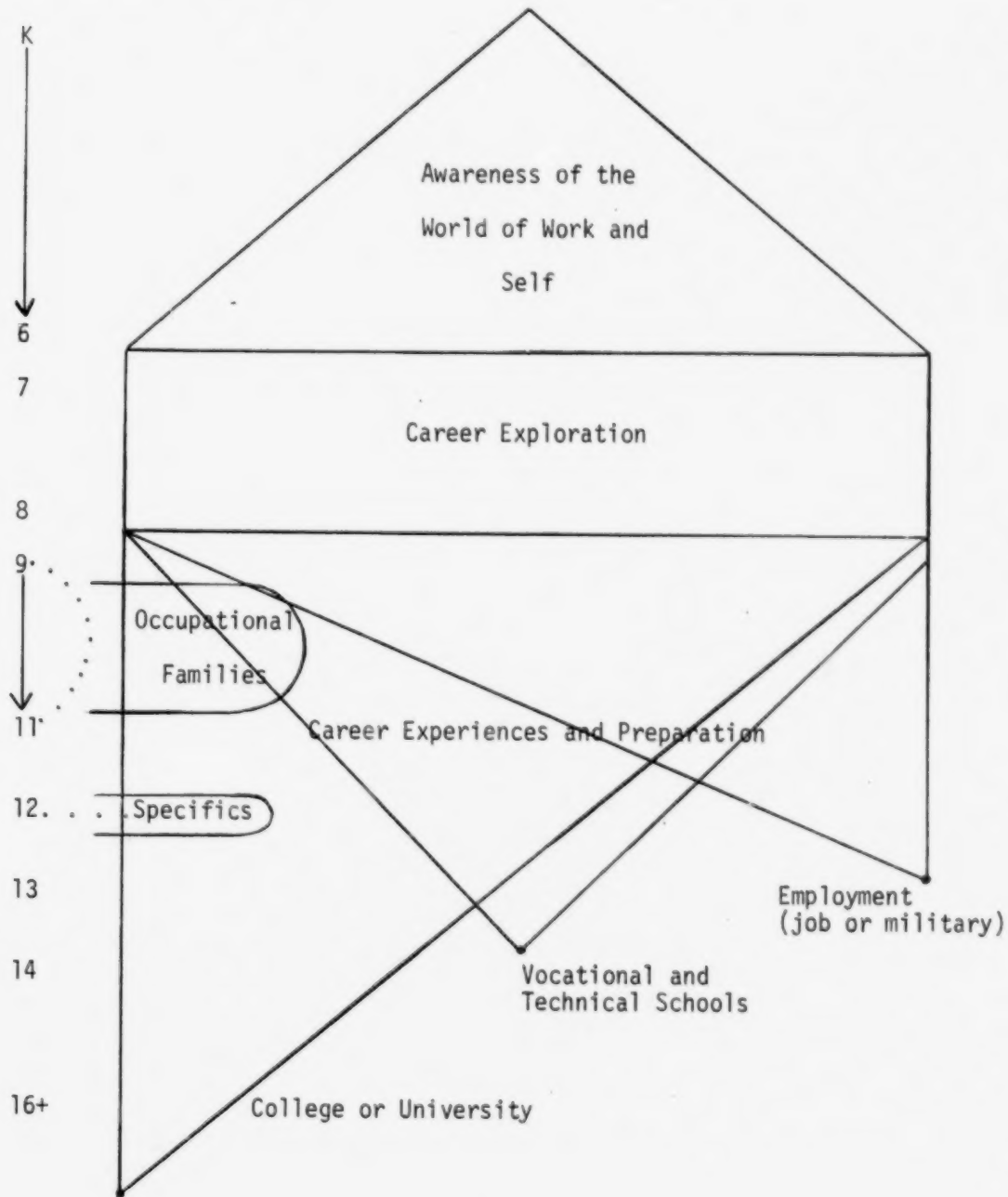
Chart 1

Career Education by Grade Levels

Grade	Career Education Foci
K-6	Career Awareness--familiarity with the World of Work
7-9	Career Explorations
10-11	Development of Employability
12	Development of Specialized Skills
13-14	Technical or Vocational School
13-16	College or University
16+	Post graduate and continuing education (re-education) throughout life

Figure 2

Model for Career Education



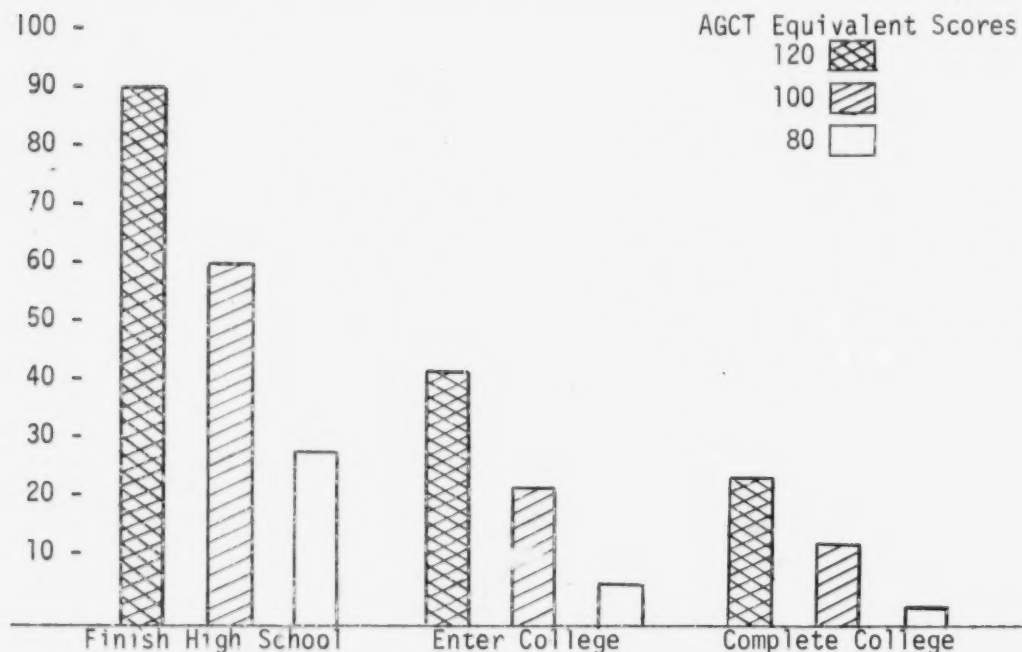
One vital aspect of the Career Education concept does not appear in either model--that of Career Education as being more than school activities. In the broadest terms, Career Education is the total of all experiences in life leading to a self-satisfying personal environment.

When the State Board of Education listed Career Education as a top priority in the public school system for all students, the staff of the Division for Exceptional Children, Gifted and Talented Section, realized that concern for the bright child must play an important role in the planning of the Career Education Program for North Carolina. According to criteria passed by the General Assembly, some nine to ten percent of our pupil population are eligible for special programs designed for gifted and talented students.²

Statistics for 1970 revealed that 80,000 high school students in the United States with IQ's of 120 and over had quit school before graduation.³ Research such as Figure 3 done by D. Wolfe shows that many who are bright never even enter college, much less finish it. Something is obviously wrong in the nation when potentially able students leave school without being able to develop to their fullest potential.

Figure 3

Relationship of Test Scores to Educational Achievement⁴



²Article 38, Chapter 115, Public School Laws as amended in 1969.

³Speech by Congressman John Brademas-D - Illinois at The School Guidance Center Annual Conference "Children with Ability," June 18-19, 1970.

⁴James J. Gallagher, TEACHING THE GIFTED CHILD. (Boston: Allyn and Bacon, Inc., 1970), p. 11.

A major concern in our state is the lack of pre-service and in-service education for teachers who work with bright youngsters. At present, colleges and universities in North Carolina offer little or no course work in gifted education. The Gifted and Talented Section has had to rely largely on day-long workshops or half-day minishops, visitation to classrooms with counseling sessions after school with teachers and administrators, and publications and dissemination of materials to upgrade teacher competencies and to develop an awareness of the special needs of gifted and talented students.

Beginning in the summer of 1970, the first In-Service Institute for Secondary Teachers began at the Governor's School of North Carolina located in Winston-Salem. The Z. Smith Reynolds Foundation funded the Institute and the twenty workshops per year for two years that followed. In 1972, the State Board assumed Institute funding with the College Entrance Examination Board's supplying money for the workshop series. Nowhere was the Career Education concept being utilized for the bright student other than in college preparatory programs.

No Career Education awareness or exploratory ideas with the gifted and talented child as the target were being developed. We met with Mrs. Betty Stovall, director of the Special Abilities and Talents program in the Charlotte-Mecklenburg Schools, and Dr. John B. Chase, dean of the School of Human Development and Learning at the University of North Carolina at Charlotte, to plan for a Middle Grades Institute for Teachers of Gifted and Talented Students. The preliminary plans were presented to Dr. Jerome H. Melton, State Assistant Superintendent for Program Services, and George A. Kahdy, Deputy Assistant Superintendent, who injected the Career Education focus and directed us to Dr. Charles Law, Director of the Division of Occupational Education, and Robert Mullen, Associate Director for Program Services. These two men, along with Vaden Hairr, who supervises all summer institutes for the Division of Occupational Education, Thomas King, Clifton Belcher and Sam Byrd, accountants for the State Department, have given us needed support. Theodore R. Drain, Director of the Division for Exceptional Children, has guided and supported the program from its inception. This entire project would have been doomed to failure had not all of these dedicated people been committed to education of gifted and talented students.

Since Federal Occupational Education funds were utilized, certain regulations were required and adhered to in final planning and implementation. No graduate credit could be given to the twenty participating teachers though renewal certificate credit was permitted and no occupations leading to a baccalaureate degree were to be explored.

A racially balanced group of fifty-one children, based on the population composition of Mecklenburg County, attended the three week morning sessions upon invitation. No funds for student transportation were made available, but the interested parents made arrangements to get their children to the school site from all over the county and city. Twenty teachers from across the State were selected from names recommended and submitted by local superintendents to participate in the Institute. The first and fifth weeks of the Institute and the afternoons of the second, third and fourth weeks were used for in-service training of these teachers on aspects of Career Education and on techniques of teaching and understanding the bright child in a career-oriented learning situation. From the fifteen Career Clusters,

those of Media and Communication, Manufacturing, Construction, Health Careers, Hospitality and Recreation, and Marketing and Distribution were chosen for detailed study. The inquiry teaching and learning process was selected as the exploration structure for both students and teachers. This process had the merit of being well suited to the inquiring minds of the bright students and to the major premise that the entire Institute was devoted to career exploration, not career training.

A component of the project was the publication and distribution of HANDS-ON. The final project component is to be a series of some fifteen day-long workshops to be held across the state in the fall and winter on Career Education for Bright Students in the Middle Grades using the institute teachers as leaders.

The two lead teachers who worked under the direction of Mrs. Stovall were Mrs. June McKinney and Mrs. Olive Holland. These staff members planned the institute so that the teachers would learn about:

1. gifted education at the middle grade level
2. the need for a differentiated curriculum for bright students
3. techniques in the use of the Inquiry Process
4. ways of application of all of these things into the Career Clusters

A Federal restriction forbidding investigation into any career requiring a baccalaureate degree had to be kept in mind constantly during both planning and study phases of the program.

The next three weeks, when the teachers and students worked at Harding High School, were tremendously exciting and totally different. On Mondays the career cluster to be studied was introduced. Each Tuesday small groups of teachers and children went on various field trips to learn about the career cluster in real life working conditions. On Wednesdays and Thursdays, the groups began building and working in interest centers using the tools, techniques and skills relevant to the careers being explored. On Fridays, each small group shared its new understandings, skills and products with the total group. During the afternoons of these three weeks, the teachers met as a class for instruction and presentations by outside consultants or divided into specific career study groups to plan teaching units to be field tested with children either during the summer institute or in the home schools. These units appear in this publication.

Students and teachers observed or had actual "hands-on" experiences within the following clusters:

I. Media and Communication Cluster (week one)

A. Broadcasting--visit to TV station

1. VTR equipment was brought into class--all students developed skits, were taped and saw a playback of themselves.
2. Students who visited the station built a simulated studio--cameras, sound boom, ear phones.
3. Students produced a live show using announcers, technologists, cameramen, audiomen, cue card people, entertainers.
4. All students saw the "show."

B. Publishing--visit to Charlotte Observer

1. Students set up a newsroom.

2. Students assumed carrier roles and began to publish a paper.
3. The paper was duplicated and distributed on Friday to all students
- C. Line--visit to Southern Bell Telephone Company
 1. Students divided into committees
 2. Some worked with telegraphic sending keys.
 3. Some drew the electronic relay system; others built a simulated switchboard; others strung wires (knitting thread) from paper telephone poles
 4. Personnel staff interviewed applicants for job openings.
 5. All students visited this room for the presentation.
- II. Construction and Manufacturing Clusters (week two)
(Due to the interlocking nature of these two clusters, they were treated as one during this week)
 - A. The students and teachers divided into groups.
 1. One group went to the Heavy Equipment School, and each child attending actually operated, under careful "hard hat" supervision, some type of machine
 2. Shaw Furniture Company demonstrated the process from raw log to the upholstered product.
 3. The Skyline Mobile Homes Company demonstrated from start to finish the construction of mobile homes
 4. The Ralph Squires Company illustrated home construction.
 - B. Thirteen interest centers were set up
 1. One group of teachers remained behind when the children went on the trips to help set up the centers.
 2. Each child spent 30 to 45 minutes in each center with actual "hands-on" activities. This complete round took much of three days
 3. The "hands-on" centers were:
 - a. copper electroplating
 - b. identification of small tools (kinds of saws, hammers, screw drivers, etc)
 - c. soldering copper pipe (plumbing)
 - d. drafting
 - e. blue printing
 - f. bricklaying (none had done this)
 - g. manufacturing of 15 kindergarten stools from drawings to painted, finished products)
 - h. interior decorating and color
 - i. surveying
 - j. wood welding
 - k. wallpapering
 - l. identification of woods, flooring, roofing, nails and other building materials
- III. Marketing and Distribution Cluster (week three)
 - A. The teachers designed interest centers, presented films and provided other exploratory activities
 - B. Students and teachers visited Belk Store Services and Associated Grocers Mutual Warehouse.
 1. Students established Riggins Department Store.
 2. At a "board meeting" departments necessary to revive lagging sales of a product were created.
 3. Each department engaged in activities that would promote sales.
 4. The product was traced from its inception to its purchase by a consumer.

- IV. Health Careers Cluster (week three)
 - A. The teachers designed interest centers, games and presented films.
 - B. Students and teachers toured training centers for health careers at Central Piedmont Community College.
 - 1. Students staged mock operating room procedures involving a variety of health careers.
 - 2. Students staged a puppet show illustrating various health careers.
 - 3. Children molded three dimensional bones from clay.
 - 4. Children created a booklet containing descriptions of health careers, medical advice, etc.
 - 5. One child created an aluminum mobile depicting health careers.
 - 6. A child gave a guided "tour" of Charlie, the anatomical model.
 - 7. Children created a large "film strip" on health careers and presented it as a TV program.
- V. Hospitality and Recreation Cluster (week three)
 - A. The teachers designed interest centers, presented an original skit, showed a film and provided other exploratory activities.
 - B. Students and teachers visited a Holiday Inn.
 - 1. Students designed and decorated The Proud Peacock Lounge.
 - 2. Students prepared and served refreshments to all Institute guests at the Proud Peacock.
 - 3. Students created an exotic zoo.
 - 4. One student designed and operated a miniature golf course.
 - 5. One student designed a promotional brochure for an original resort--Enjoyment Hills.

A great deal of interest has been generated by this Institute. The tremendous press and TV coverage was almost unbelievable. Many people visited and made enthusiastic comments. People interested in this project or one similar to it should contact the Gifted and Talented Section, Division for Exceptional Children, for additional information on Career Education as it pertains to the gifted and talented middle grade student.

Cornelia Tongue

Chapter I

EXPLORING CAREERS THROUGH THE INQUIRY PROCESS

The Career Exploration Institute selected two concepts to delineate its work with bright middle grade students and their teachers. The first concept stated that the Institute would confine itself strictly to exploring careers, not training for a job.

The second concept proposed a blending of the academic and occupational areas of education into a unified whole which would improve understandings and appreciation of the values inherent in each area.

The Institute then set three goals to be achieved while developing the major concepts:

1. To introduce bright children to a world of work which does not require a baccalaureate degree but can offer opportunities for creative thought and valuable achievements
2. To provide classroom teachers with field-tested units on career clusters which will further the concepts of career awareness and exploration without creating a "new course" for the general curriculum.
3. To expand teaching resources, strategies and processes that stimulate learning and productivity in students.

No one knew how twenty teachers, fifty-one bright students, an array of relatively unknown careers, various academic disciplines and divergent styles of learning, teaching and communication could become allies. In addition, there was the necessity to blend two educational areas which have been traditionally separated--the academic and the occupational fields. Certainly, a structure was needed to keep learning and teaching strategies from dissipating into meaningless activities.

The inquiry process was chosen for this structure since it involves all the teaching, learning and communication styles and the students had some experience using it. Therefore, the explorations of careers done by the students and preparation of units by the teachers follow this structure. This proved to be uniquely suitable to an endeavor which was a vast inquiry situation itself.

The following description of the Inquiry Process was taken from the HANDBOOK FOR RESOURCE TEACHERS OF GIFTED CHILDREN and adapted for career explorations. Occupational clusters, families and careers were designated as the major content area of inquiry, and the academic fields were used as resource and communication areas supporting the major inquiry. Stress was always on exploration, not training.

The Inquiry Process⁵

- I. A problem or an area of interest is identified for investigation by a class, a group or an individual.
 - A. An inquiry interest center is an excellent way to introduce the problem. It presents tools, products, skills, concepts about the career to be studied and stimulates thinking and problem identification.
 - B. This problem or topic is then reduced to a manageable size--a task requiring much critical examination and evaluation of the interest center.
 - C. The topic or problem is then discussed thoroughly to ascertain the student's present understandings and beliefs.
- II. The class, group, or individual makes statements about the topic in the form of hypotheses. (When background knowledge is limited, the student may have to formulate a suitable question instead of a hypothesis.) The teacher accepts this statement as the student's best present belief--whether right or wrong. It is important that the student know his idea is trusted and his present stance accepted as a bona fide beginning point. The teacher never tells a student he is "wrong." Rather, students are encouraged to take risks, experiment and not be afraid of failure. A major objective of the teacher is to help the students develop good self images.
- III. Through investigations, research and study, students collect information about their hypotheses and formulate others.
 - A. Evidence is collected that proves the hypotheses correct.
 - B. Evidence is also collected that proves the hypotheses incorrect or partially correct. Both types of information should be gathered.
- IV. The next step involves evaluation of the hypotheses in the light of the newly found information and decision making concerning the validity of the hypotheses.
 - A. Students are encouraged to change their beliefs freely without fear of censure.
 - B. In no instance does the teacher say "I knew you'd change (or not change) your mind about your first belief." The important happening is that the student collect and examine new information, organize and evaluate it, and make an orderly decision. It is not likely that he could garner all the possible information and come to a final, irrevocable conclusion but some kind of conclusion must be reached.
- V. Finally, the study is communicated to the class in an interesting and personal way with each student developing his own specific communication talent in skits, pictures, panels, debates, poems, stories, models, mobiles, charts, essays, music or notebooks.
 - A. The product must be informative and display an acceptable level of organization regardless to the communication styles selected by the student to present his work.

⁵Adapted from Stovall, Tongue, et al. HANDBOOK FOR RESOURCE TEACHERS OF GIFTED CHILDREN, Division for Exceptional Children, North Carolina Department of Public Instruction, Raleigh, N. C., 1971.

- B. The product then becomes a source of information and model for other students. Students do not compete with each other but strive to achieve the best product each is capable of completing. Satisfaction comes from knowing that a good piece of work has been done and shared.
- VI. Final evaluation of the finished product is in terms of the following functions:
 - A. Application of the inquiry process
 - B. Involvement of learning processes
 - 1. Memory--the act of recall, both short and long spanned
 - 2. Transformation--the act of transmitting information gained from one media or source in the format of a different media
 - 3. Interpreting--deriving significance and meaning from the content or activity
 - 4. Application--making use of the information or understanding or being aware of its use in external situation
 - 5. Analysis--taking things apart to identify the significant parts
 - 6. Synthesis--putting ideas and concepts or material together in new relationships. The creative act is a part of this function.
 - 7. Evaluation--the critical examination of the product or process to ascertain results, quality or efficiency in relation to specified goals.⁶
 - C. Learning styles used by students
 - 1. The work of each student is related to his best approaches to learning:
 - a. Aural - listening
 - b. Visual - seeing
 - c. Tactile - touching and manipulating
 - d. Olfactory - smelling
 - e. Tasting
 - f. Oral exchange - discussion
 - 2. The teacher deliberately plans so each student can develop all styles to some degree, and one or more to a point of sophistication.
 - D. Teaching styles for professional and student use
 Both the teacher and student need to be aware of these seven teaching styles which are used to facilitate learning:
 - 1. The lecture--teacher centered, student "collects" information
 - 2. Read and report--student reads and reports, written or oral, student centered
 - 3. Question and answer--teacher and or student centered "give and take"
 - 4. Discussion--teacher-student oriented interchange of information and ideas
 - 5. Demonstration--teacher or student oriented, "show and tell"
 - 6. Problem solving--teacher presents problem, students investigate and solve
 - 7. Inquiry--students identify problem and concept, research and make decisions, and communicate conclusions

⁶This is adapted from Benjamin S. Bloom, Ed., TAXONOMY OF EDUCATIONAL OBJECTIVES HANDBOOK I: COGNITIVE DOMAIN (New York: David McKay Company, Inc., 1966).

E. Communication styles used by students and teachers

The teacher and students evaluate the degree of excellence to which communication styles have been developed and how additional styles have been employed as the situation requires. This promotes awareness and respect for the personal communication styles employed by other students. These styles include:

1. Verbal--both written and spoken
2. Models--three dimensional
3. Symbols--charts, graphs, formulas
4. Line and color--paintings
5. Movement--dance, pantomime, drama
6. Sounds--music, sound effects

As previously pointed out, these communication styles are closely allied to the specific talent of an individual and often dictate the best media for communicating his thoughts.

F. Decisions concerning present or probable worth or product

With this inquiry process acting as a general stabilizer, the teacher draws important factors into the educational picture and helps the student become aware of the part each plays in the total operation: teaching styles, learning processes, learning styles, communication styles. These are related to the content--in this case Career Explorations.

A simple way to point out the basic relationships of these four factors is shown in Chart 2. Using it teachers can decide how many of the pupil activities, listed vertically on the left side of the chart, are put into operation when each of the teaching styles, listed horizontally, are used. As the teacher becomes more proficient in using the various teaching styles, she will notice a definite shift from the teacher-centered lecture style through the more student-centered demonstration style to the inquiry style.

Chart 2

TEACHING, LEARNING AND COMMUNICATION STYLES AND PROCESSES

Teaching Styles	Lecture	Read & Report	Question & Answer	Discussion	Demonstration	Problem Solving	Inquiry
<u>Learning Styles:</u>							
Auditory	X		X	X	X	X	X
Visual		X	X		X	X	X
Tactile					X	X	X
Olfactory					X	X	X
Taste					X	X	X
Oral discussion		X	X	X	X	X	X
<u>Learning Processes:</u>							
Remembering	X	X	X	X	X	X	X
Transforming					X	X	X
Interpreting	X	X		X	X	X	X
Application					X	X	X
Analysis		X		X	X	X	X
Synthesis		X		X	X	X	X
Evaluation				X	X	X	X
Problem Identification							X
<u>Communication Styles:</u>							
Verbal-Oral		X	X	X	X	X	X
Verbal-Written		X	X		X	X	X
3-Dimensions					X	X	X
Color-line					X	X	X
Sound					X	X	X
Symbols: Charts Graphs					X	X	X
Movement					X	X	X

Chapter II

CAREER EXPLORATION UNITS

Obviously not all of the fifteen career clusters could be thoroughly studied in a three week period of time. Instead, the students had actual exploration and hands-on experiences in six selected clusters:

Communication and Media
Construction
Manufacturing
Marketing and Distribution
Hospitality and Recreation
Health Careers

The twenty teachers acted as resource people, conducted field trips, guided study activities and planned exploration units. Some of the units were immediately field-tested with the children. Others were prepared for later try-outs in home schools.

This chapter of HANDS-ON presents a collection of Career Exploration Units for the use of teachers who recognize the need to knit the world of work and the world of school into a vital life-style for their students.

The first section contains fourteen clusters. Each has been described in detail as models teachers may follow. The second section contains additional units in abbreviated form for expansion and adaptation to suit local situations. In no instance are the units and activities complete. They are spring boards for teachers and students into the world of occupational careers.

Section A

UNIT ONE

Cluster: Agriculture-Business and Natural Resources

Family: Farm Production

Career: Tobacco Farmer

Suggested problem: What methods are used by a tobacco farmer to improve his product?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate to the problem established.)

I. Introductory Activities

- A. Display a tobacco basket and let students speculate as to what it is used for.
- B. Discussion
 1. What is known (possible statements by students)
 - a. The tobacco farmer grows tobacco, harvests it, and prepares it for the wholesale market.
 - b. Tobacco farming is employing new machines and techniques.
 - c. Tobacco farming requires much hard work.

- d. Tobacco farmers are allowed to sell only a certain poundage yearly.
 - e. Tobacco farmers plant seeds and then set plants.
 - 2. Need to know (possible statements by students)
 - a. Kinds of machines being used by the tobacco farmer
 - b. Way that a farmer's allowed poundage is determined
 - c. Chemical treatment that a farmer must apply to plants
 - d. Way that the price a farmer receives is established
 - e. What happens if a farmer produces over his poundage
 - f. Who buys the tobacco from the farmer and where is it sold?
 - g. How is acreage determined?
 - II. Sample hypothesis: The tobacco farmer uses modern technology in machines and chemicals to improve the quality of his tobacco and receive higher prices per pound when it sells to the buyer at a warehouse.
 - III. Investigation - Study - Hands-on Experiences
 - A. Study of machines used by the tobacco farmer: visit a distributor of farm machinery
 - B. Study of poundage allotment procedure: resource person - county extension agent
 - C. Study of chemicals used for tobacco treatment: acquire information from chemical companies, films
 - D. Study of determining price paid per pound: representative of tobacco company
 - E. Study of over-production, determination of acreage, and selling place: resource person - farmer, field trip, visit a warehouse
 - IV. Conclusion
 - A. The tobacco farmer uses new and modern machinery and chemicals.
 - B. The farmer takes the tobacco to a warehouse where a representative buyer from a tobacco company bids on it and it goes to the highest bidder.
 - V. Presentation: Statement of problem and communication styles
 - A. Models (farm, farm equipment)
 - B. Newspaper article, stories
 - C. Pictures, bulletin boards, photographs (farmers at work, warehouse, display of chemical containers)
 - D. Plays - Skit of raising tobacco from seed to warehouse
 - VI. Evaluation
 - A. What new appreciation or values has the study revealed?
 - B. Was the research well done?
 - C. Could the presentation have been improved?
 - D. Can the product be profitably shared with other classes?
 - E. Was the hypothesis or hypotheses proved or disproved satisfactorily?
 - F. Were the individual studies related to the tobacco farms?
- Related disciplines: science, simple mathematics

UNIT TWO

Cluster: Agriculture-Business and Natural Resources
 Family: Agriculture Sciences
 Career: Floral Designer

Suggested problem: What kinds of work are done by floral designers?
 (Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activities
 - A. Interest center with different flowers, plants, ribbons, bowls, etc.
Have the children experiment with making arrangements or corsages.
 - B. Discussion
 1. What is known (possible statements by students)
 - a. Color-coordination is important in floral arrangements.
 - b. Floral designers make corsages and centerpieces.
 - c. A floral designer must be creative.
 2. Need to know (possible statements by students)
 - a. Training required in pursuing a career in floral design
 - b. Duties performed by floral designers
 - c. Does a person have to have a special talent to do this?
 - d. How do the designers decide what type of arrangement is best for a particular occasion?
 - e. Why do we use flowers to express feelings?
 - II. Sample hypothesis: A floral designer is a person who is trained to design floral pieces into arrangements suitable for varied occasions.
 - III. Investigation - Study - Hands-on Experiences
 - A. Study the history and importance of flowers and arrangements.
How did we start using flowers to express sympathy, appreciation, etc.?
 - B. Study various occasions that call for floral pieces (L.A.)
 - C. Study types of floral pieces such as: corsages, centerpieces, wreaths, sprays, birthday and anniversary arrangements and holiday designs.
 - D. Investigate costs of flowers and the best time of year to use certain ones. Make a study of cost and profit as related to durability of flowers. (Math and L.A.)
 - E. Plant flowers inside the room and outside under miniature greenhouse (inverted aquarium) and study their growing. (Soc. Stud. and L.A.)
 - F. Have floral designer (florist) visit class and demonstrate techniques.
 - IV. Conclusion: It is important that a floral designer be familiar with the growth processes of flowers and conditions under which flowers thrive in a controlled environment. Creativity and originality are assets for the floral designer.
 - V. Presentation
 - A. A variety of social or home situations with appropriate floral arrangements made by the children.
 - B. Set up a floral shop. Floral designers (children) make arrangements in front of class.
 - C. Pictorial presentation of the history of floral designing
 - D. Student demonstrations of care for cut flowers
 - E. Skit depicting duties in a floral shop
 - VI. Evaluation
 - A. Was the hypothesis proved?
 - B. Were many different talents used in your presentation?
 - C. Do you think a career in floral design is worth pursuing?
 - D. What would you do differently if you had it to do over?
- Related Disciplines: History, Language Arts, Math
- Resources: Booklet "Career Brief" Largo, Florida, no cost - 14 pages;
Society of American Florists, Sheraton Park Hotel, Washington, D. C. 20008; Floral designing as a career: Pittners School, 345 Marlborough Street, Boston, Massachusetts 02115

UNIT THREE

Cluster: Business and Office Occupations

Family: Cashiers

Career: Commercial bank teller

Suggested problem: What are the duties and responsibilities of a bank teller?
(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

I. Introductory activities

A. Divide students into groups of five. Give four children in each group play money, a deposit slip, a practice check book, and a folded piece of paper with Savings Book written across the front. One student in each group will role play a bank teller and will follow the procedures he assumes a bank teller follows; the other students in the group act as banking customers.

B. Discussion

1. What is known (possible statements by students)

- a. A bank teller counts money.
- b. A bank teller records transactions.
- c. A bank teller cashes checks and makes deposits and withdrawals.

2. What is not known (possible statements by students)

- a. What training and educational background is necessary in order to be a bank teller?
- b. What is the employment outlook in this field?
- c. What other tasks are bank tellers required to do?
- d. What are the earnings of a bank teller?

II. Sample hypothesis: A bank teller receives and pays out money and records these transactions. He also performs other tasks such as sorting checks and deposit slips.

III. Investigation - Study - Hands-on Experiences

A. Interview a bank teller - Discover the specific duties performed by the teller and the training provided by the bank to make him competent in carrying out these duties.

B. Write: American Bankers Association, Personnel Administration and Management Development Committee, 90 Park Avenue, New York, N. Y. 10010; National Association of Bank Women, Inc., National Office, 60 East 42nd Street, New York, N. Y. 10017

C. Visit a bank and observe a teller at work.

D. Invite a teller to talk with the class about his career.

E. Interview the personnel director in a bank to determine the educational background and personal characteristics required of a teller.

F. Observe the 24 hour automatic teller in operation.

IV. Conclusion

A. A bank teller receives checking and savings account deposits and accurately records these transactions.

B. Tellers perform other tasks such as sorting checks and deposit slips, filling new account cards, listing currency received and tallying this on settlement sheets, counting cash, verifying the identities of people cashing checks.

V. Presentation

A. Set up a mock teller's "cage" within a bank. One student acts as a teller and handles transactions from other students who act as customers.

- B. Set up a "drive-in" banking window.
 - C. Role play - One student acts as a teller and another as a reporter doing a feature article on this career.
 - D. Create classified advertisements for banktellers.
 - E. Trace a dollar from the time it is minted.
 - F. In a skit show how a teller at a drive-in window is gradually relieving the regular bank teller of many duties, while at the same time the automatic teller is relieving the drive-in window teller of her duties.
- VI. Evaluation
- A. Was the research well done and carefully analyzed?
 - B. Was the hypothesis clearly stated?
 - C. Which thinking and learning processes were used?
 - D. Were the presentations interesting and suitable? Did they use the different talents of the students effectively? What communication styles were used?
- Related disciplines: language arts, math, social studies, art
- Materials and Resources: Deposit slips, play money, simulated savings books and practice check books which can be obtained from Wachovia Bank and Trust Company and possibly other banks as well.

UNIT FOUR

- Cluster: Business and Office Occupations
 Family: Secretary and Stenographer
 Career: General Secretary
- Suggested Problem: What qualities are required in a good secretary?
 (Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)
- I. Introductory Activities
- A. Interest Center displaying a typewriter, typing eraser, dictionary, pen, pencils, note pad, calendar and any other essential secretarial items. Make a bulletin board of secretaries' pictures. Use secretarial sounds (typewriter, phone ringing, etc.) on tape. Ask students to identify sounds as related to a career.
 - B. Discussion
 - 1. What is known (possible statements by students)
 - a. Most secretaries are women.
 - b. Skills such as spelling and mechanics of English are essential.
 - c. Secretaries must have pleasant voices.
 - 2. Need to know (possible statements by students)
 - a. What other skills a secretary must know
 - b. What the duties of a secretary are
 - c. What kinds of secretaries there are
- II. Sample Hypothesis: A general secretary must know many things about an office such as scheduling appointments for employers, taking care of correspondence, and handling private or confidential records.
- III. Investigation - Study - Hands-on Experiences
- A. Interview secretaries you know and men who have secretaries.
 - B. Bring in any books, magazines, or articles about secretaries.
 - C. Visit an office which has a secretary or secretaries. Observe them and take notes about work for an hour.

- IV. Conclusion:
 - A. A secretary must be well-organized and efficient.
 - B. Secretaries' jobs vary according to places employed.
 - V. Presentation
 - A. Student may role play or pantomime a secretary's duties.
 - B. Prepare a bulletin board (different kinds of letters), a poster, or mural focusing on a secretary's duties.
 - C. Use misspelled words on board to point out the importance of spelling correctly.
 - VI. Evaluation
 - A. Was hypothesis proved?
 - B. Were the presentations interesting and informative?
 - C. Were varied talents involved in the teaching styles?
 - D. Were all the learning styles used?
- Related Disciplines: English, spelling, typing

UNIT FIVE

- Cluster: Communications and Media
 Family: Publishing
 Career: Newspaper editor
 Suggested Problem: What does a newspaper editor do?
 (Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)
- I. Introductory Activities
 - A. Interest center displaying newspapers from various locales, clippings, and, if possible, plates from the paper, news tape; (Another idea would be to have a collection of papers from various schools in the area.)
 - B. Discussion
 - 1. What is known (possible statements by students)
 - a. A newspaper has many sections.
 - b. An editor must know how to organize all these sections.
 - c. An editor must be able to hire good helpers.
 - 2. Need to know (possible statements by students)
 - a. What training does an editor have to have?
 - b. What are his responsibilities?
 - c. What is his salary?
 - d. How does he become an editor?
 - II. Sample Hypothesis: The editor of a newspaper must see that each department does its job to keep the news accurate and up-to-date.
 - III. Investigation - Study - Hands-on Experiences
 - A. Invite a newspaper editor to come in and talk to the class.
 - B. Take a trip to a newspaper.
 - C. Make a study of headlines comparing history of those of the 1960's to those of the 1970's.
 - D. Use filmstrips if available on history of newspaper.
 - IV. Conclusion: The editor has to see that all departments keep the news accurate and up-to-date.
 - V. Presentation
 - A. Students make up their own newspaper.
 - B. Collage of editor's columns.

- C. Bulletin board depicting various newspaper jobs
- D. Art - Block printing, potato, ink, cutting tools
- E. Songs, skits, stories

VI. Evaluation

- A. Was the hypothesis proved or disproved?
- B. Did the study bring about new appreciations of values?
- C. Was the research sound?
- D. Were the presentations interesting, informative and well organized?

Related Disciplines: math, language arts, social studies, art

UNIT SIX

Cluster: Construction

Family: Engineer

Career: Surveyor

Suggested Problem: What does a surveyor do?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

I. Introductory Activities

- A. To set the stage, begin with a prearranged skit showing two neighbors in a dispute over a boundary line.
- B. With the class, arrive at a solution to the problem--possibly the use of a transit.
- C. Discussion
 - 1. What is known (possible statements by students)
 - a. Surveying is important in the construction of highways, airfields, bridges, dams, and buildings.
 - b. Surveying is important in settling boundaries, map making, charts, and plates.
 - 2. What needs to be known (possible statements by students)
 - a. What is a transit? How is it used?
 - b. What are the parts called?
 - c. How is "sighting" done?
 - d. Is math important?
 - e. Is it a team effort?
 - f. What is the history of surveying?

II. Sample Hypothesis: A surveyor determines the precise measurements and location of elevations, points, lines, contours of the earth's surface and distances between points.

III. Investigation - Study - Hands-on Experiences

- A. Set up a transit out of doors and allow pupils to become familiar with it.
- B. Review terms and demonstrate techniques.
- C. Research historical use of surveying.
- D. Involvement of other disciplines
 - 1. Math: Lay off a rectangle using assigned dimensions. Lay off a right triangle. Test using the Theorem of Pythagoras. Test the Theorem using other dimensions.
 - 2. Science-Social Studies: Research topographical maps, kinds of soil, history of surveying, magnetic poles, gravitation.

3. Language Arts: Words with meaningful prefixes such as "trans," "tri," and other meanings for "survey."
 - IV. Conclusion: Using a transit, the surveyor determines precise measurements of lines and location of points on the surface of the earth. He uses this information to determine boundaries.
 - V. Presentation: Use of talents and other aids
 - A. Demonstration, investigation, research
 - B. Films, filmstrips, 8-MM loops
 - C. Laying off an imaginary "swimming pool"
 - D. Additional skits, showing the ways disputes over boundaries can be solved objectively.
 - VI. Evaluation
 - A. Was the hypothesis proved through the use of a transit?
 - B. Was the practicality of surveying realized?
 - C. Were the correlations and presentations effective?
- Related disciplines: math, science, social studies, language arts
- Resources:
- A. OCCUPATIONAL OUTLOOK HANDBOOK, Pg 257
 - B. MODERN SCHOOL MATHEMATICS, Houghton-Mifflin Company, pg. 83, 123.

UNIT SEVEN

- Cluster: Environmental Control Occupations
 Family: Conservationist
 Career: Game Warden
- Suggested Problem: What are the responsibilities of a game warden?
 (Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)
- I. Introductory Activities
 - A. Skit involving teacher and one student in which an arrest is made for shooting an animal illegally.
 - B. Discussion
 1. What is known (possible statements by students)
 - a. There is a need to preserve animal life to avoid extinction of species.
 - b. Because many will not take this responsibility upon themselves, laws are needed to accomplish this.
 - c. Game Wardens are the law enforcement officials who are responsible for animal preservation.
 2. Need to know (possible statements by students)
 - a. How the game warden gets his job
 - b. Education needed to become a game warden
 - c. Personal qualities needed to be a game warden
 - d. Occupational dangers of the game warden
 - e. Duties and responsibilities of the game warden
 - II. Sample Hypothesis: The game warden is a state employee who is responsible for the enforcement of the wildlife laws of North Carolina.
 - III. Investigation - Study - Hands-on Experiences
 - A. Study of the responsibilities of the game warden: Have a local game warden speak to the class.
 - B. Study of requirements for the job: Write to the North Carolina Department of Conservation and Development in Raleigh.

- C. Study of occupational dangers: Refer to periodicals for incidences and resource people.
- D. Study of personal qualities and educational background for the job: Materials from the N. C. State Department of Conservation and Development and WILDLIFE magazine's "warden of the month."
- IV. Conclusion: The game warden is a state employee who is responsible for the protection of his area game according to law. The game warden is responsible for surveys of game and resulting decisions and/or actions.
- V. Presentation
 - A. Skit, Demonstration
 - B. Drawings, Charts, Posters
 - C. Bulletin boards
 - D. Stories, Poems
 - E. Preparing book of wildlife laws
- VI. Evaluation
 - A. Was hypothesis proved or disproved?
 - B. What were the communication styles used in the presentation?
 - C. Can the presentation be successfully conveyed to another class?
 - D. Are the students satisfied with their study?
 - E. How can we improve?

UNIT EIGHT

Cluster: Fine Arts Occupations

Family: Drama

Career: Actors and Actresses

Suggested Problem: What does it take to be a good actor?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activity
 - A. Plan and put up a bulletin board on the history of the theater. This could include Greek plays, Medieval Morality Plays, Shakespeare, etc. Discussion of this could lead to a discussion of modern actors.
 - B. Several weeks in advance of planned unit, start taping parts of several TV shows. Use this as the introductory activity getting children to identify the different familiar voices.
 - C. Divide class into small groups and assign topics for pantomiming. At the end of pantomimes, discuss, "Just what does it take to be a good actor?"
 - D. Discussion
 - 1. What is known (possible statements by students)
 - a. Actors and actresses work on stage, for movies, TV or radio.
 - b. Their work is exciting and glamorous.
 - c. They are very highly paid workers.
 - 2. What is not known (possible statements by students)
 - a. Is the work easy?
 - b. What kind of training is necessary?
 - c. Are there many uncertainties about the work?

- II. Sample hypotheses
 - A. Actors need a good speaking voice, dramatic talent, good health and stamina, the ability to memorize well, and much interest and determination.
 - B. The field of acting is greatly overcrowded, so actors face stiff competition and economic uncertainties.
- III. Investigation - Study - Hands-on Experiences
 - A. Attend a local Little Theater production. Talk with director or producer and try to get a resource person to talk to school group.
 - B. Do research on the history of the theater and acting.
 - C. Make a collection of pictures and short biographies of famous actors and actresses, noting their outstanding characteristics, training, experience and length of working life.
 - D. Visit or write the School of Drama, University of North Carolina at Chapel Hill to obtain information about training to become an actor.
 - E. Interview coach of Dramatics Clubs at local high schools or college.
 - F. Write any of the following organizations:
 - Actors' Equity Association
 - Screen Actors Guild, Inc.
 - American Federation of Television and Radio Artists
 - G. Contact local television and radio stations for names of any local people in field whom you might contact.
 - H. Check libraries for books and magazine articles pertaining to this career.
- IV. Conclusion: Actors work hard and face many difficulties and uncertainties. Only a few actors achieve recognition as stars and are paid a top salary. Most actors have another job also.
- V. Presentation
 - A. After studying styles and voices of several well-known actors, present skits to the class, mimicing their techniques.
 - B. Produce a play for the class.
 - C. Plan, direct and tape a radio production.
 - D. Construct a puppet stage, write a play and give a puppet show for the class.
 - E. Memorize and give for the class several of Shakespeare's most famous scenes.
 - F. Present a skit or role playing of a movie scene being shot.
- VI. Evaluation
 - A. Was the hypothesis proved?
 - B. What are the advantages and disadvantages of becoming an actor?
 - C. Was the presentation interesting and informative?
 - D. How many talents and learning styles were used?

Related Disciplines: language arts, music, art, social studies

Resources: Films

- Acting Problems - IFB - 11 min., b&w
- Curtain Time - EBF - 30 min., b&w
- Directing a Play - IFB - 11 min., color
- Four Ways to Drama - University of California - 33 min., b&w
- Make-up for Boys - IFB - 11 min., color
- Make-up for Girls - IFB - 10 min., color
- Make-up for the Theater - University of California - 15 min., color
- Pantomime for the Actor - S-L Film Productions - 22 min., color
- Romeo and Juliet - Royal Academy of Dramatic Art and Regent Polytechnic Institute, London, 105 min., b&w
- Shakespeare's Theater: The Globe Playhouse - IFB - 19 min., b&w

UNIT NINE

Cluster: Fine Arts Occupations

Family: Drama

Career: Actor or Actress

Suggested Problem: What is involved in becoming an actor or actress and what is the "job outlook" for one in this profession?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

I. Introductory Activities

A. Inquiry Interest Centers

1. Have various objects on a table--cup, spoon, clock, shoe, horn, etc. Allow students to explore and choose an article and develop a skit or pantomime using his chosen article.
2. Have a clear jar or bowl on a table with numbers from 1 to 20 corresponding to an emotion or feeling listed on a chart on the bulletin board (ex. - fear, happiness, etc.). Have students draw a number, match it with the numbered emotion on the chart and then pantomime that emotion.

B. Discussion

1. What is known (possible statements by students)
 - a. An actor or actress often works late at night and on holidays
 - b. An actor or actress must have some natural talent.
 - c. An actor or actress has to memorize lines.
2. Need to know (possible statements by students)
 - a. How does one become an actor?
 - b. What is the salary range for an actor?
 - c. What kind of training must an actor have?

II. Sample Hypothesis: Some actors never become famous even though they have talent and work very hard.

III. Investigation - Study - Hands-on Experiences

- A. Have students observe a member of their family and do a pantomime in class of them while the other students try to guess the age, sex, etc. of the individual.
- B. Research a famous actor or actress whom they like.
- C. Attend a play.
- D. Students write a skit incorporating all that they have researched on drama.

IV. Conclusion

- A. Hard work does not necessarily make a good actor.
- B. Good actors have a place in dramatics whether they become famous or not.

V. Presentation

- A. Students write and produce a play making scenery, costumes and other appropriate essentials.
- B. Songs, Skits, Poems

VI. Evaluation:

- A. Was the hypothesis proved or disproved?
- B. Was the research sound?
- C. Did the study bring about new appreciations of values?
- D. Were the presentations interesting, informative and well organized?

Related disciplines: language arts, art, music

UNIT TEN

Cluster: Health

Family: Miscellaneous Personnel

Career: Hospital Dietitian

Suggested Problem: What are the responsibilities of a hospital dietitian?
(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate to the problem established.)

I. Introductory Activity

A. Pictures of foods are on a table. A student is asked to volunteer to come up and choose foods to make a good meal for "a" group of people.

B. Discussion

1. What is known (possible statements by students)
 - a. When planning a meal, you must take into consideration variety as well as foods that go together.
 - b. Proper food contributes to good health.
2. What is not known (possible statements by students)
 - a. What does a dietitian do besides plan meals?
 - b. What training is needed?

II. Sample hypothesis: A dietitian needs to know the physical condition of people involved in order to plan meals.

III. Investigation - Study - Hands-on Experiences

- A. Write for information: The American Dietetic Association
620 N. Michigan Avenue
Chicago, Illinois 60611
- B. Visit school lunchroom and interview dietitian. Study the federal guidelines for school lunches.
- C. Inquire at Public Health Department to get information about sanitation grades.
- D. Study of calories
- E. Interview dietitian about purchasing food.
- F. Study music played at institutions and restaurants to learn how music and food are related.
- G. Visit hospital or nursing home to learn about menus and planning.

IV. Conclusion

- A. Dietitians must do purchasing and supervision as well as menu planning.
- B. They must know the physical condition of their charges.

V. Presentation

- A. Assist school lunch service.
- B. Picture presentations of practical, easy to cook, tasty food
- C. Stories and poems
- D. Skits: Dietitian meeting the salesman or health office
- E. Music played for eating periods

VI. Evaluation

- A. Was hypothesis proved?
- B. Were presentations interesting and valid?
- C. Were many talents involved?
- D. Were learning styles included?

Related disciplines: math, science, music

UNIT ELEVEN

Cluster: Manufacturing Occupations

Family: Research and Development

Career: (Fabric) Designer

Suggested Problem: What is the job of a fabric designer and how do his designs reflect the time in which he lives?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activities
 - A. Interest center displaying fabrics, household linens, gift wrapping, wall paper, drapery, pencil, paper, graph paper, color wheel, paints, etc.
 - B. Discussion
 1. What is known (possible statements by students)
 - a. What careers might be involved in manufacturing these objects? (Note on board)
 - b. What do you know about fabric designing?
 2. What do we need to know about fabric designing? (possible statements by students)
 - a. What materials and tools are used?
 - b. What abilities are involved in fabric designing?
 - c. What is the procedure in designing a fabric?
 - II. Sample hypotheses
 - A. Since fashion trends change frequently, the fabric designer must have the ability to change ideas and to adopt new processes.
 - B. History is reflected in the fabric designs of each period.
 - C. Math is involved in fabric designs with a repeating pattern.
 - III. Investigation - Study - Hands-on Experiences
 - A. Visit a fabric design department (found in North Carolina Textile Plants)
 - B. Interview people involved in fabric design or implementing the design onto the product.
 - C. Make a "croquis" (an original sketch of a design) using various color combinations and then figure mathematically a workable repeat distance for upholstering a chair.
 - D. Investigate fabric designs of the past to show effect of the times on the fabric.
 - IV. Conclusion: Based on the information gathered during research, it is valid to say that trends and interests of periods in history are reflected in fabric design.
 - V. Group or individual presentations:
 - A. A demonstration, slides, illustrations
 - B. Pictures, exhibit of product
 - C. Stories, record sounds illustrating visual design
 - VI. Evaluation:
 - A. Were the hypotheses proved or disproved?
 - B. Was the presentation interesting and informative?
 - C. What would you do differently the next time?
 - D. Did they show that different disciplines are interrelated?
 - E. Were the talents of students utilized?
- Related Disciplines: Art, math, social studies

Resources: Occupational Outlook Handbook, SRA Career Information, Desk Top Career Kit, American Textile Manufacturers Institute, Inc., 1501 Johnston Building, Charlotte, N. C. 28202; "Your Career in Art", Philadelphia College of Art, Broad and Pine Streets, Philadelphia, Pa.; American Home Economics Association, "Textile and Clothing" pamphlet, 1600 20th Street, N.W., Washington, D. C. (15¢).

UNIT TWELVE

Cluster: Marine Science Occupations

Family: Marine Scientists

Career: Marine Science Technician

Suggested Problem: What is the work of a marine science technician?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activities
 - A. Film showing features beneath the surface of the ocean
 - B. Discussion
 1. What is known (possible statements by students)
 - a. Scientists study features of the ocean.
 - b. Much is still not known about the ocean.
 - c. Oceanographers and Marine Scientists study the ocean.
 2. Need to know (possible statements by students)
 - a. How important the ocean may become to us in the future.
 - b. How the oceanographer studies the ocean.
 - c. What is the marine science technician?
 - d. How can you become a marine science technician?
- II. Sample hypothesis: A marine science technician gathers data that the oceanographer or marine scientist analyzes. You can become a marine scientist technician by apprentice training or by attending a technical school.
- III. Investigation - Study - Hands-on Experiences
 - A. Study of features of the ocean--films, books, pictures, slides
 - B. Study of importance of the ocean now and in the future--books, periodicals, films
 - C. Study of oceanography--experiments, resource people, films
 - D. Study of the work of the marine science technician--oceanographic instruments, films, resource people, field trips
 - E. Study of preparation for becoming a marine science technician
- IV. Conclusion: Oceanography is growing in importance. The oceanographer depends on the marine science technician to gather his data. Some schools offer programs in marine science technology.
- V. Presentation: Stating problem and how it was solved
 - A. Skits, demonstrations of techniques
 - B. Drawings, Charts
 - C. Poems, Stories
 - D. Models
 - E. Slides, Transparencies
- VI. Evaluation
 - A. Were individual studies related to the major concept under investigation?
 - B. What understandings have been gained concerning the marine science technician?

- C. What learning processes were used?
 - D. Was the presentation interesting and suitable?
 - E. Are the students satisfied with their study?
- Related Disciplines: Science, social studies, sociology
- Resources: Materials on the Marine Science Technician program available from Cape Fear Technical Institute in Wilmington, N. C. Excellent films on oceanography available from the naval office in your district on a free loan basis.

UNIT THIRTEEN

Cluster: Marketing and Distribution

Family: Advertising

Career: Research Personnel

Suggested Problem: What are the necessary prerequisites for a person who researches packaging?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

I. Introductory Activities

- A. Count students off in groups of four. Present each person with a clear bottle filled with some product, bottles are numbered. Ask each person in each group to identify and list the names of the product within his group. After observing the contents of each and arriving at an inference, each person selects his original bottle for marketing. Without discussion, provide each person with paper, crayons and pencils so that he may draw an attractive package (box, bottle, jar, etc.) for his product. Ask that each includes a picture of the product as well as the package. Include the price, weight and other saleable information. Each student now personifies his product for the audience to guess his identity.

B. Discussion

- 1. What is known (possible statements by students)
 - a. Research personnel members must be creative and artistic with line and color.
 - b. Must understand human psychology for eye-appeal.
 - c. Require a knowledge of geometry in order to draw proper lines and angles.
- 2. What we need to know (possible statements by students)
 - a. How to go about designing the most saleable package.
 - b. Something about the buying habits of the purchasers.
 - c. Some knowledge of available packaging materials, eg. glass, paper, plastic, etc.

II. Sample Hypothesis: A person doing research for packaging must understand people's tastes in packaging materials and labels--psychology of appeal.

III. Investigation - Study - Hands-on Experiences

- A. Study packaging materials
- B. Experiment with the development of colors and combinations
- C. Experiment with merchandise display
- D. Visit stores and draw diagrams or take pictures of displays
- E. Make survey of neighborhood or school on choice between two originally designed packages

- IV. Conclusion: An understanding of that which appeals to buyers is essential. Display counters must reflect this appeal.
 - V. Presentation
 - A. State the problem and how it was solved. Use of talents and other disciplines.
 - B. Each group presents finished packages to audience for buying appeal. This may be in the form of symposium, costume of the individual, songs or poems, or original skits.
 - VI. Evaluation
 - A. Did we prove that research personnel must understand the tastes and interests in buying appeal of the general public.
 - B. Was the presentation informative and interesting?
 - C. How many kinds of talents were used?
 - D. How many learning styles were included?
- Related Disciplines: Science, art, math, psychology

UNIT FOURTEEN

Cluster: Personal Services

Family: Commercial

Career: Cosmetologist

Suggested Problem: What qualities should a cosmetologist have?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activities
 - A. Interest center containing 2 or 3 wigs or dolls with rollable hair, thinning scissors, permanent wave kits, teasing comb, lifting forks, and other beauty shop items.
 - B. Discussion
 - 1. What is known (possible statements by students)
 - a. Beauticians must know how to roll and cut hair.
 - b. Beauty shops smell strange.
 - c. Hair styles change.
 - 2. What is not known (possible statements by students)
 - a. How much training is needed?
 - b. What smells so strange in a beauty shop?
 - c. How does the beautician keep up with changes?
 - d. How was hair styled in the past?
- II. Sample hypothesis: A cosmetologist needs to be able to stand for long periods. A hairdresser should be able to get along with new styles, since they are constantly changing.
- III. Investigation - Study - Hands-on Experiences
 - A. Visit a beauty shop or local beauty school. Identify various smells and equipment. See a manicure and facial demonstration.
 - B. Write for information: National Beauty Career Center, 3839 White Plains Road, Bronx, N. Y. 10467; National Hairdressers and Cosmetologists Association, 175 5th Avenue, New York, N. Y. 10010.
 - C. Study beauty magazines to see how new ideas are popularized.
 - D. Interview beauty supply salesmen.
 - E. Use books, magazines and photos to study styles of past.
 - F. Compare hair differences of races.

- IV. Conclusion
 - A. Much standing is necessary; customers often "open up" to beauticians.
 - B. Magazines, salesmen and conventions spread new ideas and styles.
 - V. Presentation
 - A. Students stage mock hair styling competition.
 - B. Pictures of hair styles of the past.
 - C. Demonstrations of manicures and facials.
 - D. Skit demonstrating "listening" or "sounding board" role of a beautician
 - E. Music: Listen to "Hair," "I'm Gonna Wash That Man Right Out of My Hair," "Jeanne with the Light Brown Hair"
 - F. Stories, Poems
 - VI. Evaluation
 - A. Were all learning styles used?
 - B. Were any values changed?
 - C. Were presentations valid and informative?
- Related Disciplines: art, social studies, sociology, music, health

UNIT FIFTEEN

Cluster: Public Service

Family: Police and Fire

Career: Policeman

Suggested Problem: What training and personal qualities must a policeman have?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activities
 - A. Have students identify the following objects by touch, sound, or smell--a badge, hat, night stick, toy gun, license plates, walkie-talkie, or other objects that might be borrowed from the local police department.
 - B. Discussion
 - 1. What is known (possible statements by students)
 - a. These items are used by policemen.
 - b. Policemen are employed by the city.
 - c. Policemen investigate crimes.
 - d. Policemen must meet certain qualifications before they are hired.
 - 2. What needs to be learned (possible statements by students)
 - a. What are the qualifications to be a policeman?
 - b. What are a policeman's specific duties?
 - c. What is the salary range for a policeman and what are his opportunities for advancement?
- II. Sample hypotheses:
 - A. Policemen investigate crimes and attempt to apprehend criminals.
 - B. Police are usually required to have a high school degree, to be honest, have good judgment and a sense of responsibility.
- III. Investigation - Study - Hands-on Experiences
 - A. Bring in a policeman to discuss his job with the students and explain the use of the items in the interest center.
 - B. Consult the Municipal Yearbook published by the International City Manager's Association available in many libraries.

- C. Interview a police cadet.
 - D. Ask for permission to accompany a policeman during part of his beat.
 - E. Tour local police station.
 - F. Set up fingerprinting center in the classroom to discover why finger printing is important in police work.
- IV. Conclusion
- A. A high school education is not always a requirement but special training is involved before entering police work.
 - B. Policemen are required to meet certain physical qualifications.
 - C. Background and character traits of prospective policemen and officers are thoroughly investigated.
 - D. Policemen often specialize in certain fields in order to aid in apprehending criminals (Example: fingerprinting, narcotics, etc.).
- V. Presentation
- A. Skit illustrating different duties of policemen.
 - B. Illustrated story about a policeman and his work.
 - C. Filmstrip made by students
 - D. Role-playing involving personnel director and a prospective policeman.
 - E. Set up police communications center with simulated walkie talkie, car radio operators, etc.
 - F. Have one student draw a criminal suspect as described by a witness to a simulated crime (role play).
 - G. Set up physical standards for the class to meet in order to be able to be a "class" policeman. Have one student take down physical data and to ascertain who might qualify.
- VI. Evaluation
- A. Was the hypothesis proved?
 - B. Were the presentations interesting and did they involve many different kinds of talents?
 - C. Were all the learning styles used that could have been used?
 - D. Was research carefully done and weighed in order to test the validity of the hypothesis?

Related Disciplines: language arts, art, social studies, science

Resources: International Association of Chiefs of Police
1319 18th Street, N.W.
Washington, D. C. 20036

International Association of Women Police
100 North La Salle Street
Chicago, Illinois 60602

Fraternal Order of Police
P Carter Hotel
1012 Prospect Avenue
Cleveland, Ohio 44115

UNIT SIXTEEN

Cluster: Recreation and Hospitality

Family: Travel

Career: Travel Agent

Suggested Problem: What are the duties of a travel agent?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

- I. Introductory Activities
 - A. Interest Center - Table covered with maps of various countries with samples of food from each, suitcase, brochures, and other items suggesting travel.
 - B. Plan a trip around the world including stops listed arbitrarily on the board and estimate cost. Example of places: Rome, Istanbul, Paris, Grand Canyon, Stonehenge, Acropolis--would the help of a travel agent be helpful?
 - C. Discussion
 1. What is known (possible statements by students)
 - a. Items on table suggest travel
 - b. It would be difficult to plan a trip to include all these places.
 - c. Travel agent usually plans trips.
 2. Need to know (possible statements by students)
 - a. What does the agent do in planning a trip?
 - b. What talents and abilities should an agent have?
 - c. How does the agent make the hotel and tour accommodations in other countries?
 - II. Sample hypothesis
 - A. A travel agent makes arrangements for people to travel to different places by working directly with the customer or through retail agents.
 - B. The travel agent should be enthusiastic and knowledgeable about travel.
 - III. Investigation - Study - Hands-on Experiences
 - A. Write to travel agencies.
 - B. Inquire at local motels, hotels and restaurants about dealing with agents.
 - C. Investigation of travel films
 - D. Visit a travel agency.
 - E. Small groups use materials from travel agency and plan a trip to a country on a specified budget.
 - IV. Conclusion: The travel agent must be very familiar with the geography of the world. He must be able to assist a customer in planning a tour that satisfactorily meets the customers' personal desires and limitations.
 - V. Presentation
 - A. Set up a travel agency and plan trips.
 - B. Present a chart on duties of agents.
 - C. Simulation of agent convincing someone to choose career of travel agent.
 - D. Brochure advertising special trip
 - E. Using a world map, indicate a suitable and enjoyable route to a particular part of the world.
 - VI. Evaluation
 - A. Was the career of travel agent adequately explored?
 - B. Did the presentation really depict the job of the agent?
 - C. Was the career made interesting?
 - D. Was the hypothesis proved or disproved?
- Related Disciplines: language arts, geography, art, math

UNIT SEVENTEEN

Cluster: Transportation
Family: Civil Aviation

Career: Stewardess

Suggested Problem: What qualities should a stewardess possess and what are her duties?

(Problems other than this one may be established by the class, by individuals or by small groups. Each hypothesis should then relate directly to the problem established.)

I. Introductory Activities

- A. The teacher role plays the job of stewardess with the students. Students place desks two together with aisle down the middle (to simulate interior of plane). Teacher begins by welcoming the passengers, demonstrating the use of seat belts and going through the procedures used by a stewardess during a flight.
- B. Discussion
 1. What is known (possible statements by students)
 - a. Stewardesses try to make the passengers' flight enjoyable.
 - b. Stewardesses work irregular hours.
 - c. Stewardesses need special training.
 2. What is not known (possible statements by students)
 - a. What qualifications are required to be an airline stewardess?
 - b. Can an airline stewardess be married?
 - c. What is the salary range for the airline stewardess?
 - d. What are the opportunities for advancement?
 - e. What is the employment outlook in this field?

II. Sample hypotheses:

- A. Stewardesses strive to make flight passengers comfortable.
- B. Stewardesses must meet high standards of attractiveness, personality and intelligence.
- C. Stewardesses must be specially trained.

III. Investigation - Study - Hands-on Experiences

- A. Write: H. L. Morton, Delta Airlines, Inc., P. O. Box 27003, Douglas Airport, Charlotte, N. C. 28208. (He will send film or stewardess or both to talk to class.)
- B. Write various airlines for information concerning training of their airline stewardesses.
- C. Tour airport

IV. Conclusion

- A. Airlines place great stress on hiring young women who are poised, tactful, attractive, and resourceful. Airlines usually give newly hired stewardesses at least five weeks training in their own schools.
- B. The duties of the stewardesses are varied but are all related to insuring passenger safety and confidence.

V. Presentation

- A. Skits involving an airline stewardess and flight passengers in various situations.
- B. Mobile depicting various duties of the stewardess.
- C. Present a tape recorded interview with an airline stewardess.
- D. Poems, stories
- E. Interview (role play) between prospective stewardess and airline personnel director
- F. One child leads class through exercises stewardess must learn in training.

VI. Evaluation

- A. How many different kinds of talents were involved in the presentation?
- B. What means of communication were used?
- C. Was research carefully done?

- D. Was hypothesis clearly stated and proved or disproved satisfactorily?
- E. Did the students appear well-informed concerning the career of the airline stewardess?

Section B

UNIT ONE

Cluster: Communications and Media

Family: Radio station

Career: Disc jockey

Suggested Problem: What personal qualities would be useful in becoming a disc jockey?

- I. Introductory Activities
 - A. Listen to a local radio station disc jockey program or provide a tape using sections of several different shows.
 - B. Discussion
 - 1. What is known
 - a. Plays records
 - b. Answers telephone requests
 - c. Does commercials
 - d. Tells funny stories
 - e. Tells about community events
 - 2. What is not known
 - a. How do you become a disc jockey?
 - b. Is there a special school for DJ's?
 - c. How much are they paid?
 - d. How old do you have to be to be a DJ?
- II. Hypothesis (to be formulated by individuals or group of students)
- III. Investigation - Study - Hands-on Experiences
 - A. Invite a local well-known disc jockey to come into the class for question and answer session.
 - B. Take a field trip to a local radio station to watch the disc jockey at work.
- IV. Conclusion (to be based on hypothesis)
- V. Presentation
 - A. Each child would act out being a disc jockey for about five minutes doing records or tapes and chatty commercials.
 - B. Mural showing disc jockey at work.
 - C. Poems and songs about disc jockeys.
 - D. Scale model of a radio station control booth done in cardboard.
- VI. Evaluation (see detailed units)

Related Disciplines: social studies, art, language arts, math

UNIT TWO

Cluster: Communications and Media

Family: Lines Communication

Career: Telegraph Operator

Suggested Problem: What is the work of a telegraph operator?

- I. Introductory Activities
 - A. Interest center showing sticks, key board, telephone, pictures of stick figures showing ways of communication, matches, head phone, radio--anything pertaining to communication
 - B. Discussion
 1. What is known
 - a. There are many means of communication.
 - b. Telegraph is used for communication.
 - c. The telegraph operator sends and receives messages.
 2. Need to know
 - a. Different types of telegrams
 - b. How does the telegraph work?
 - c. Does it still work the same way it did?
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Trip to telegraph office
 - B. Books on history of telegraph
 - C. Interview with telegraph personnel
 - D. Film on telegraph system
 - E. Investigation of different codes
 - IV. Conclusion (to be formulated on basis of hypothesis)
 - V. Presentation
 - A. Time line indicating historical events perhaps emphasized by skits
 - B. Construct a telegraph key and receive and send messages with code.
 - C. Send actual telegram
 - VI. Evaluation (see detailed units)
- Related Disciplines: science, language arts, history
 Resources: Film - Telegram for America, Western Union

UNIT THREE

Cluster: Communication and Media

Family: Publishing

Career: Newspaper Reporter

Suggested Problem: What is the job of a newspaper reporter?

- I. Introductory Activities
 - A. Have students make a display of varied newspapers
 - B. Idea conglomerate - For a bulletin board: cut the following words (personal characteristics of a news reporter) from newsprint. Make a big Jimmy Durante nose from newsprint. ("nose for news")
 - C. In groups, role play (1) a day in the life of a news reporter on a large metropolitan newspaper, (2) a reporter's day on a small daily or Sunday paper.
 - D. Discussion
 1. What is known
 - a. A newspaper reporter should have a "nose for news."
 - b. There are many types of newspapers and news reporters.
 - c. A reporter's job may vary according to the kind of paper he works for.
 2. Need to know
 - a. The education required for a news reporter
 - b. What is expected of a reporter
 - c. The employment outlook for a reporter

- II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Invite a news reporter to a panel discussion about his job.
 - B. For exploration collect a variety of newspapers, books, magazines, films and filmstrips.
 - C. Visit both a large newspaper and a small one. Observe closely how a news reporter's job would differ.
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. As class visits the newspapers, a class photographer can make slides of a day in the life of a reporter. These with narration may be presented to the class.
 - B. Present the news reporter's day in creative song and verse.
 - C. Students may write creative stories and poems about a news reporter. Writing in first person they may imagine they are telling the reporter's story from the point of view of his pen, his typewriter, his desk, his memo pad, etc.
 - VI. Evaluation (see detailed units)
- Related Disciplines: language arts, typing, history

UNIT FOUR

Cluster: Communication and Media

Family: Broadcasting

Career: Video Camera Operator

Suggested Problem: What qualities are necessary for the job of video camera operator?

- I. Introductory Activities
 - A. Visit a broadcasting station. Invite a camera operator as a guest speaker in the school for specific questions. Collect cameras for study.
 - B. Discussion
 - 1. What is known
 - a. The working hours are flexible.
 - b. A camera operator meets interesting people.
 - c. He must have creative ability.
 - d. Must have some mechanical aptitude.
 - e. Needs some scientific knowledge in the area of lens and color study.
 - 2. What we need to know
 - a. Is good visual perception necessary?
 - b. Is this career in great demand?
 - c. Do the wages vary in different locations?
 - d. Is the ability to plan and organize necessary?
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Make a study of lenses, color and light.
 - B. Construct cameras patterned after those being studied.
 - C. Make survey of the demands for camera operators.
 - D. Compare salaries with working hours.
- IV. Conclusion (to be formulated on basis of hypothesis)
- V. Presentation
 - A. The person may use a costume and explain his job.

- B. Have students write questions and feed into the camera for the operator to answer.
- C. Act out the working day of a camera man.
- VI. Evaluation (see detailed units)
- Related Disciplines: art, science, math
- References: OCCUPATIONAL OUTLOOK HANDBOOK
1970-71 Edition
U. S. Department of Labor
Bureau of Labor Statistics
Bulletin No. 1650

UNIT FIVE

- Cluster: Communications and Media
- Family: Publishing
- Career: Sportswriter
- Suggested Problem: What is the job of a sportswriter?
- I. Introductory Activities
 - A. Have the children play a softball game. For homework, ask them to pretend they are sportswriters and write an article about the game telling what happened. The next day:
 - B. Discussion
 - 1. What is known
 - a. A sportswriter records the facts of the game.
 - b. A sportswriter interprets situations that arise during a game.
 - c. A sportswriter interviews people to get their opinions.
 - 2. Need to know
 - a. Specific duties of a sportswriter
 - b. Education and training
 - c. Is this a limited field?
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Interview sportswriter.
 - B. Watch various sports events. Practice recording facts. Write article from notes.
 - C. Read articles written by sportswriters.
 - D. Record facts and statistics about sports events in your school.
- IV. Conclusion (to be formulated on basis of hypothesis)
- V. Presentation
 - A. Collection of sports articles about different events on all grade levels of your school.
 - B. Compare several articles about the same event. Debate likenesses and differences, accuracy of facts, whether it is opinionated or not, most interesting moment, etc.
 - C. Presentation of articles by students who knew the rules of a particular game and by students who did not.
 - D. Pantomime interpretation of game.
- VI. Evaluation (see detailed units)
- Related Disciplines: language arts, social studies, math
- Resources: Film - "Your Career in Journalism" 27 minutes
American Newspaper Publishers Association, 750 Third Avenue, New York, N. Y. 10017; The Newspaper Fund, Inc., Box 300, Princeton, N. J. 08540.

UNIT SIX

Cluster: Communications and Media

Family: Line Communications

Career: Operator

Suggested Problem: What does a telephone operator do?

- I. Introductory Activities
 - A. Interest center displaying model telephone, telephone directory, tools used in line communication, ear sets, copies of telephone bills, pictures of telephone company people at work.
 - B. Discussion
 1. What is known?
 - a. Operators work at a switchboard.
 - b. You may contact them by dialing "0".
 2. What is not known?
 - a. How much training is necessary for this career?
 - b. How much salary can an operator make?
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Books, magazines, pamphlets
 - B. Interview people who are present or former operators.
 - C. Field trip to local telephone company
 - D. Hands-on experience with model telephone
 - E. Films: "I Rather Like You, Mr. Bell" and "Operator" - Southern Bell
 - F. Study rates on long distance calls.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. Construction of simulated switchboard and calculagraph
 - B. Paint a mural depicting work of operators
 - C. Skits, student written, including knowledge learned
 - D. Prepare a telephone directory of all class members.
 - E. Role playing of placing a long distance call
 - VI. Evaluation (refer to detailed units)
- Related Disciplines: science, social studies, math, language arts

UNIT SEVEN

Cluster: Construction

Family: Building Trades

Career: Cabinet Making

Suggested Problem: What kinds of work does a cabinet maker do and what qualifications should he have?

- I. Introductory Activities
 - A. Interest Center: Make collection of pictures of cabinets. Collect various wood samples. Assemble a display board of various joints and finishes.
 - B. Discussion
 1. What is known
 - a. We need various cabinets in our homes, schools, and offices.
 - b. Cabinets vary in sizes, shapes, finishes, and functions.
 - c. Cabinets add beauty.
 2. What we need to know
 - a. Suitable wood and finishes

- b. Various styles and lines
 - c. Line of assembly
 - d. Location of actual construction, whether it be on the job or in a special shop
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Study of various cabinets: pictures, films, locations
 - B. Study of woods, nails, glues, paint and hardware
 - C. Consult resource people regarding materials: field trips
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation: Statement of problem and communication
 - A. Skit--re-enactment of whole assembly
 - B. Drawings, dramas, bulletin boards
 - C. Work song and dances
 - D. Leading styles in various regions
 - E. Tree Farms that supply suitable cabinet woods
 - VI. Evaluation (see detailed units)
- Related Disciplines: math, science, language arts, social studies, art, music
- References: 3-Dimensional Teaching Aids for Trade and Industrial Instruction, U. S. Department of HEW, Washington, D. C.

UNIT EIGHT

Cluster: Construction

Family: Architect

Career: Tracer

Suggested Problem: What is the work of a blueprint tracer?

- I. Introductory Activities
 - A. Prepare a bulletin board of blueprints. On a table below, display tracing paper over a house plan or some construction plan. Display drafting equipment such as ruling pens, pencils, compasses, French curves, lettering pens, triangles, T-squares, art gum, slide rules, blueprinting machine.
 - B. Discussion
 - 1. What is known
 - a. Tracer is related to construction.
 - b. Blueprinting is related to both construction and the tracer.
 - 2. Need to know
 - a. What a tracer does
 - b. What a blueprinter does
 - c. The materials they both need
 - d. Training needed
 - e. Salary
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Study of tracer's duties in drafting rooms
 - B. Examine materials tracer uses: transparent cloth, paper, plastic film, also instruments used by draftsmen.
 - C. Make blueprints--using ultraviolet rays, aqua ammonia, emulsified paper.
 - D. Make field trip to explore working conditions, educational requirements and salary.

- E. Study of personal characteristics required of a tracer (patience, neatness, etc.)
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. Ask the vocational teacher to instruct students in tracing and blueprinting. Let them demonstrate the techniques to other classes.
 - B. Divide the class into tracers and blueprinters. Let the tracers draft designs of their choosing and trace them. Pass these to the blueprinters to be printed.
 - VI. Evaluation (see detailed units)
- Related Disciplines: geometry, art
- Resources: American Institute of Drafting and Design, 18465 James Couzens, Detroit, Michigan 48235; film - "Your Careers in Architecture"

UNIT NINE

- Cluster: Construction
- Family: Heavy equipment operators
- Career: Bulldozer operator
- Suggested Problem: What training and physical qualifications must a bulldozer operator have?
- I. Introductory Activities
 - A. Interest center displaying pictures of bulldozer operators at work; toy bulldozer; salary charts showing pay of bulldozer operators in different areas of the U. S. and pamphlets on becoming a bulldozer operator.
 - B. Discussion
 - 1. What is known
 - a. Bulldozer operators work outdoors.
 - b. Bulldozers are heavy machines.
 - c. Bulldozers are necessary in the construction of roads and buildings.
 - 2. What is not known
 - a. Is special training required?
 - b. How much are bulldozer operators paid?
 - c. Can girls drive bulldozers?
 - d. How old do you need to be?
 - e. Is driving a bulldozer dangerous work?
 - II. Hypothesis (to be formulated by individuals or groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Invite a bulldozer operator to come and speak with the class.
 - B. Take a field trip to a heavy equipment school and arrange for each child to help drive a bulldozer.
 - C. Take snapshots during the field trip.
 - D. Tape record sounds heard during field trip.
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. Display snapshots taken on field trip.
 - B. Play tape recording of bulldozer sounds.
 - C. Art work of sights seen on field trip
 - D. Poems and songs about the work of a bulldozer operator
 - E. Skit showing a person applying for a job as a bulldozer operator (this will include skills and training needed and salary range)
 - VI. Evaluation (see detailed units)

UNIT TEN

Cluster: Construction

Family: Related Occupations

Career: Safety Coordinator

Suggested Problem: What is the purpose of a safety coordinator?

I. Introductory Activities

- A. Policy letter from the principal stating support and giving the basic safety philosophy of the school. Principal requests that a program of safety be set up involving the total enrollment based on the government program OSHA.

B. Discussion

1. What is known

- a. Safety involves everyone.
- b. Principal is safety-minded.
- c. Government is also interested in safety.

2. Need to know

- a. What is OSHA?
- b. What kind of program is it?
- c. What is the inspection like?
- d. Will schools be involved in OSHA? (Occupational Safety and Health Act)

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

- A. Survey the class to find out the number of different industries represented.
- B. Set up interviews with parents concerning safety in their plants.
- C. Report to class, and list as many safety requirements as possible.
- D. Ask everyone to contribute to an interest center based on safety (light meter, steel tape, thermometer, ear muffs, ear plugs, hard hats, records and players, for example).

IV. Conclusion (to be based on hypothesis)

V. Presentation

- A. Interviews, films, posters, slogans
- B. Appointment of class safety coordinator and representative board from each grade
- C. Survey of school with recommendations
- D. Bulletin boards, public address reminders on safety
- E. Commendations to each class for a good safety record for an agreed upon time

VI. Evaluation (see detailed units)

Related Disciplines: science, health, language arts

UNIT ELEVEN

Cluster: Construction

Family: Plumbing

Career: Plumber

Suggested Problem: What are some of the techniques used by the plumber in performing various plumbing jobs?

I. Introductory Activities

- A. Interest Center

1. Pictures cut from magazines of plumbers at work
2. Salary charts regarding plumber pay scales around the U. S.
3. Display of various plumbing fixtures (faucet, elbow joints, etc.)
4. Display of plumbing tools (snake, "Plumber's friend," etc.)
- B. Class discussion with teacher listing on the board what is known and what is not known about plumbers.
- II. Hypothesis (to be formulated and placed on charts)
- III. Investigation - Study - Hands-on Experiences
 - A. Ask each student to diagram the plumbing layout of his house or the school.
 - B. Ask a plumber and his assistant to come to speak to the class with questions and answers.
 - C. Collect two pair of pliers, a propane torch, some copper tubing, copper sleeve and elbow joints, solder and flux and demonstrate to the class how to do a "sweat" joint between pipes and joints.
 - D. Let each child, with teacher supervising, get the "hands-on" experience of doing a sweat joint himself.
 - E. Allow class to build a sculpture using the copper tubing and joints.
- IV. Conclusion (to be formulated by students and related to individual hypothesis)
- V. Presentation
 - A. Each child sketch and presents a design for a copper tubing sculpture of his own thing.
 - B. Creative writing including poems and songs about plumbers.
 - C. Show snapshots of pictures taken of a plumber at work.
 - D. Present tape recording of different plumbing sounds made by students in and around their homes. Have students hypothesize about their identity.
 - E. Class puts on a skit (perhaps humorous) of plumbers working on an emergency case.
- VI. Evaluation
 - A. Were the hypotheses on the charts true or false?
 - B. Was each child involved in each phase?
 - C. Were most of the learning skills used?
 - D. Were both boys and girls motivated to learn more about plumbing?
 - E. Was the investigation safe and well-organized?

UNIT TWELVE

Cluster: Construction

Family: Building trades

Career: Roofer

Suggested Problem: What does a roofer do?

I. Introductory Activities

- A. Display of roofing nails, shingles, tile guttering. Listen to "Up on the Roof"
- B. Discussion
 1. What is known
 - a. Roofers need to be able to weatherproof the building
 - b. Roofers need good balance
 - c. Roofers should like to work outside
 2. What would we like to know
 - a. What training is necessary?
 - b. What materials does a roofer use?

- c. How many different roofs are possible?
 - d. What is the advantage of roofs? (beauty, heat, drainage)
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Write letters for information: National Roofing Contractors Association, 1515 North Harlem Avenue, Oak Park, Illinois 60302
 - B. Interview roofer
 - C. Use books, magazines, films and filmstrips to study various roofs in other cultures and the past.
 - D. Hands-on: Use 6 X 4 and cover with shingles
 - E. Study "American Builder's Magazine" for roofs
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. Models of roofs, including those of other countries (igloo, chalet)
 - B. Demonstration of materials a roofer uses
 - C. Skit dramatizing roofer's need for math knowledge
 - D. Poems, stories (Bible reference to Nicodemus) and songs--"Fiddler on the Roof" and "Up on the Roof"
 - E. Model of doghouse or birdhouse
 - F. Report on use of roofs in westerns
 - VI. Evaluation (see detailed units)
- Related Disciplines: social studies, math, language arts, art, music
 Resources: American Builders Magazines, Recording: "Up on the Roof"
 Materials: Roofing nails, shingles, gutters, tiles, hammers, 6 X 4 board

UNIT THIRTEEN

- Cluster: Construction Occupations
 Family: Building trades
 Career: Wood Welder
- Suggested Problem: How does the job of a wood welder contribute to the construction industry?
- I. Introductory Activities
 - A. Interest center displaying split pieces of wood, materials for wood welding, glue, brushes, water, wood welding machine
 - B. Discussion
 - 1. What is known
 - a. The materials are resin glue, brushes, water, wood and welding machine.
 - b. The wood is made up of two pieces which were previously parts of one.
 - c. Welding is a process of putting things together.
 - 2. Need to know
 - a. How to mix the glue
 - b. How to apply the glue
 - c. How to operate the wood welding machine
 - d. Where a wood welder works
 - e. What type of work a wood welder does
 - f. How great is the demand for wood welding
 - II. Hypothesis (to be formulated by individual students or by groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Acquiring a broken part of a furniture item
 - B. Welding the part together

- C. Using piece of furniture again
- D. Testing the strength of the repaired furniture
- IV. Conclusion (based on hypothesis)
- V. Presentation
 - A. An advertisement for the newly repaired product
 - B. Other methods of presentation
 - 1. Skit, demonstration, slides, illustrations
 - 2. A diagram, picture, exhibit of product
 - 3. Stories, poems
- VI. Evaluation (see detailed units)

UNIT FOURTEEN

- Cluster: Construction
 Family: Architect
 Career: Landscape Architect
 Suggested Problem: What training and knowledge does a person need to become a landscape architect?
- I. Introductory Activities
 - A. Take children on a field trip. Study the landscape in parks, around buildings, at schools, at airports, near highways, etc.
 - B. Discussion
 - 1. What is known
 - a. From what we have seen on our trip, landscaping is planned by a person with special training.
 - b. This work involves the placement of flowers, trees, shrubs, sidewalks, etc.
 - c. This person should have good business sense and have the ability to deal with people.
 - 2. Need to know
 - a. Who plans landscapes?
 - b. What is involved in the training of this person?
 - c. How would one break into this field?
 - II. Hypothesis (to be formulated by individual or by groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Studies in the history of landscaping
 - B. Study of the areas planned by an architect such as parks, highways, campuses, areas around buildings, airports, suburban developments, etc.
 - C. Plan and construct a site and observe features such as slope of land, structure of the soil, existing utilities and the shade and sun at different times of day.
 - D. Preliminary plans may be drawn up with proposed features such as: buildings, roads, walks, terraces, gardens, shrubbery, grading, drainage and structure in planted areas.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. Several different sites created to show plans and designs. Explain why a certain design was chosen for a particular place.
 - B. Puppet show enacting the evolution of the landscape architect.
 - C. Be the Thing! Skit with students in the roles of trees, a lake, shrubs, flowers, buildings, sidewalks, etc. Architect places features following his plans.

VI. Evaluation (see detailed units)

Related Disciplines: science, art, math

Resources: American Society of Landscape Architects, Inc., 2013 I. Street
N. W., Washington, D. C. 20006; U. S. Department of Agriculture, Forest
Service, Washington, D. C. 20250.

UNIT FIFTEEN

Cluster: Consumer and Homemaking Education

Family: Housing

Career: Interior Decorator

Suggested Problem: What kind of work does an interior decorator do and what
qualities are necessary to work effectively?

I. Introductory Activities

- A. Interest Center: Various sized cardboard boxes (miniature rooms)
miniature furniture, carpet samples, fabrics, wallpaper books, pins,
thread, yardsticks, spools, wood scraps, paints, magazines
- B. Discussion

1. What is known

- a. Interest center suggests interior decoration
- b. Interior decorators use bright floral patterns and solid
colors
- c. Interior decorators need to know size of room, size and
number of windows, kind of furniture
- d. Need paint, brushes, scissors, yardstick, needles
- e. Materials cost money (need cloth)

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

- A. Study fibers, weaving, looms, vat dyeing, stenciling, experiment
with weaving, fabric stenciling, tie dyeing
- B. Examine kinds of tools, samples of cloth (natural and synthetic)
- C. Visit furniture manufacturing plant
- D. Have students visit department stores, offices, homes, etc. which
interior decorators have decorated--take photographs, notes, etc.--
make comparisons.
- E. Have interior decorator from a department store (Sears) visit class
and bring samples
- F. Collect, categorize and arrange into booklet pictures of bedrooms,
kitchens, dining rooms, offices, etc. Compare types of materials,
atmosphere, etc.
- G. Have small groups choose room (cardboard carton) and completely
decorate using materials in interest center

IV. Conclusion (to be related to hypothesis established)

V. Presentation

- A. Display and present booklets prepared during investigation
- B. Presentation of fabric samples
- C. Sewing demonstrations on machine
- D. Display room models created and explain choices of decorations and
furniture. Use appropriate background music.
- E. Demonstrate stenciling, tie dyeing, etc. to class.

VI. Evaluation (see detailed unit)

UNIT SIXTEEN

Cluster: Fine Arts Occupations

Family: Music

Career: Musician (Instrumental)

Suggested Problem: What educational and personal requirements are necessary for the professional musician?

- I. Introductory Activities
 - A. Play records representative of kinds of music being certain to include an example of popular music.
 - B. Discussion
 1. What is known
 - a. There are different periods of music.
 - b. A variety of instruments are used in music.
 - c. Some instrumental music is orchestral and some is solo.
 - d. Some types of music require more training than other types.
 2. Need to know
 - a. What characteristics do instrumental musicians have?
 - b. What schooling is necessary to become an instrumental musician?
 - c. What kinds of musical instruments are there?
 - d. Sequence of the history of music
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Study of musical instruments, their use and development--resource books
 - B. Study of requirements of becoming an instrumental musician--resource people
 - C. Study of kinds of instruments--display
 - D. Study of musicians--films, filmstrips, pictures, books--attend concert or occasion where musicians perform. Talk with them backstage.
 - E. Study of music in history--books, records
- IV. Conclusion (to be based on hypothesis)
- V. Presentation
 - A. A skit, slides, illustrations
 - B. Drawings
 - C. Poems, stories
 - D. Bulletin boards
 - E. Solo or group instrumental performance
- VI. Evaluation (see detailed units)

UNIT SEVENTEEN

Cluster: Fine Arts

Family: Dance

Career: Professional Dancer

Suggested Problem: What would a career as a professional dancer be like?

- I. Introductory Activities
 - A. Inquiry Interest Center
 1. Place a globe in the center of a table and arrange dolls around it who are dressed representative of ancient tribal, national and modern dancers. Use the theme "Dance Around the World."
 2. Display a poster using the theme.
 3. Have a good reference shelf handy.

- B. Discussion
 - 1. What is known
 - a. Children will tell teacher what inferences and data they have gleaned from the interest center, the artists, etc.
 - 2. What needs to be learned
 - a. Children will speculate the careers that are represented and what they need to know about each.
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Introduce unit with film "Introduction to Dance"--Associated Film Service
 - B. Visit a dance studio
 - C. Attend a ballet performance
 - D. Show the film "Satin Slippers"--Brandan
 - E. Study the forms of dance, the costuming, etc.
 - F. Learn specific dance steps. Use professional dancer as instructor if possible.
 - G. Have students create their own interpretive dance.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. Present original dance routines
 - B. Model of famous ballet being performed on stage
 - C. Collages
 - D. Murals
 - VI. Evaluation (see detailed units)
- Related Disciplines: social studies, art, health, physical education, music, drama

UNIT EIGHTEEN

- Cluster: Business and Office Occupations
 Family: Secretary and Stenographer
 Career: Typist
 Suggested Problem: What are the duties of a typist?
- I. Introductory Activities
 - A. Interest Center: Several typed letters, addressed envelopes, typed reports--items and materials which are used by a typist.
 - B. Discussion
 - 1. What is known
 - a. Types
 - b. Uses a typewriter
 - c. Typist needs knowledge of reading and spelling, language, math, and grammar
 - 2. Need to know
 - a. Materials and supplies needed by typist
 - b. Kind of materials she types
 - c. Where she works and educational requirements and promotional possibility
 - d. Positions of persons for whom she works
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experience
 - A. Study of materials used by a typist
 - B. Have typist or typing teacher visit class

- C. Field trips to a large company or business with typing pool
 - D. Bring several typewriters to class. Give each child an opportunity to type a letter.
 - IV. Conclusion (to be formulated on basis of hypothesis)
 - V. Presentation
 - A. Show film
 - B. Make a bulletin board or collage showing various typist situations.
 - C. Compose and type a letter in business form--display.
 - D. Fill out a form (typed).
 - E. Role play a typist (set up a typing pool).
 - F. Secure want ads for typists.
 - G. Clean a typewriter and change ribbon.
 - VI. Evaluation (refer to detailed units)
- Related Disciplines: math, language arts, spelling

UNIT NINETEEN

- Cluster: Fine Arts
 Family: Music
 Career: Professional Singer
- Suggested Problem: What personal qualities are important in becoming a professional singer?
- I. Introductory Activities
 - A. Interest center could include games made by taping several record hits of performing musicians: "Name That Tune," "Name That Period," "Name That Style," "Name That Voice" are suggested game titles.
 - B. Discussion
 - 1. What we know
 - a. The professional singer needs to know music.
 - b. The professional singer may make recordings.
 - c. The professional singer travels a lot.
 - d. The professional singer has irregular employment.
 - e. The professional singer must have natural talent, attractive appearance, good contacts, and luck.
 - 2. Need to know
 - a. How much training and education is needed?
 - b. Various fields of singing careers opportunities
 - c. Where to receive training
 - d. What salary can one expect
 - e. How long a singing career lasts
 - II. Hypothesis (to be formulated by individuals or groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. View film "Music: Career or Hobby?" - Coronet
 - B. Study the history of music showing how music tells the story of mankind and his cultures--the role of the singer in retelling history.
 - C. Compare folk music from around the world--Film "Listen and Sing" Bailey
 - D. Examine various kinds and styles of music
 - E. Interview (in person or by letter) performing artists
 - F. Attend an opera, rock festival, gospel sing
 - G. Read the biography or autobiography of a famous singer
 - IV. Conclusion (based on hypothesis)

V. Presentation

- A. Write a poem to be set to music
- B. Compose a tune for a poem
- C. Act out the significant events in the life of a famous singer (Elvis Pressley, Pearl Bailey, Enrico Caruso)
- D. Present an original musical production featuring class members

VI. Evaluation (see detailed units)

Related Disciplines: language arts, social studies, art

UNIT TWENTY

Cluster: Health Occupations

Family: Veterinary Personnel

Career: Veterinarian Assistant

Suggested Problem: What duties does the veterinarian assistant perform as he works with a veterinarian?

I. Introductory activities

- A. Bulletin board displaying pictures of hurt or diseased animals in contrast to healthy animals
- B. Mystery table with medical tools used by a veterinarian
- C. Discussion
 - 1. What is known
 - a. Animals need medical attention
 - b. The veterinarian is the animal "doctor"
 - c. The veterinarian needs someone to help him in his work
 - 2. Need to know
 - a. Who helps the veterinarian?
 - b. What are the duties of the veterinarian assistant?
 - c. What educational background must you have to become a veterinarian assistant?
 - d. Where, in North Carolina, can you receive this training?

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

- A. Resource person--veterinarian to speak to students on the need for veterinarian assistants.
- B. Isolate instruments from the mystery table that the assistant would be required to know how to use and allow students to examine them.
- C. Have students examine carefully a catalogue from Central Carolina Technical Institute in Sanford which offers a program for veterinarian assistants.
- D. Visit a veterinarian's office and have students observe the type of work.

IV. Conclusion (to be related to hypothesis)

- V. Presentation which communicates the procedures and results of the investigation to others
 - A. Skit illustrating the job
 - B. Drawings, models
 - C. Stories, poems

VI. Evaluation (see detailed units)

Related Disciplines: science, language arts, art

UNIT TWENTY-ONE

Cluster: Health Occupations

Family: Nursing Personnel

Career: Licensed Practical Nurse

Suggested Problem: What attributes are needed for the kinds of work the licensed practical nurse does?

I. Introductory Activities

- A. Prepare a Mystery Table with various objects used in this career (alcohol, bedpan, thermometer, sheet and pillowcase, glass and straw, soap and bathcloth in pan, tray with dishes, watch with secondhand, stethoscope, arm sling or other bandages, baby's bottle and diaper, medical chart, etc.). Cover table with cloth. After brief discussion of health, uncover table and ask students how many items they can identify. From there proceed to next discussion to see how many they know how and why to use.

B. Discussion

1. What is known
 - a. LPN's work in hospitals helping RN's and doctors.
 - b. Much of the total bedside care is provided by LPN's.
2. Need to know
 - a. How is training and work different from registered nurses?
 - b. Where else might they work besides hospitals?

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

- A. Interview the school nurse.
- B. Visit the local Health Department.
- C. Visit the local Red Cross chapter and interview person in charge. Ask that they put on a demonstration in the class.
- D. View filmstrips and films on Health Careers.
- E. Check library for books, magazine articles on Nursing.

IV. Conclusion (to be related to hypothesis)

V. Presentation or communication of acquired knowledge

- A. Borrow a "Resuscitator Annie" (adult size) doll from Red Cross or Nursing School and demonstrate artificial resuscitation to class.
- B. Using dolls, demonstrate to class correct procedures in baby care: diapering, dressing, bathing, etc.
- C. Prepare a bedtray for a patient and practice feeding a volunteer.
- D. Using the cot in the school health room (brought to class if possible) demonstrate the proper way to make a bed.
- E. Learn how to take and record temperature and pulse. Make a chart of class.
- F. Learn and demonstrate various parts of First Aid.
- G. Make and mimeograph for each class member a booklet on First Aid.
- H. Study and prepare an emergency kit for family to be used in a Civil Defense shelter.

VI. Evaluation (see detailed units)

Related Disciplines: science, health, social studies, language arts

Resources: ANA-NLN Nursing Careers, Committee on American Nurses Association, 10 Columbus Circle, New York, N. Y. 10019; National Association for Practical Nurses Education and Service, Inc., 535 Fifth Avenue, New York, N. Y. 10017; National Federation of Licensed Practical Nurses, Inc., 250 West 57th Street, New York, N. Y. 10019; Department of Medicine and Surgery, Veterans Administration, Washington, D. C. 20420. Film: "First Aid on the Spot" - EBF, 11 minutes, b&w

UNIT TWENTY-TWO

Cluster: Health Occupations

Family: Dental Personnel

Career: Dental Assistant

Suggested Problem: What are the duties of a dental assistant?

I. Introductory Activities

A. Inquiry interest center: A table display of medical instruments and supplies relating to dentistry.

B. Discussion

1. What is known

a. These instruments are used in a dentists' office.

b. Dentists have assistants to help them.

2. Need to know

a. The names of various tools and their uses

b. Various ways the assistant helps the dentist

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

A. Study of tools of a dentist on the table display

B. Visit a dentist office or report on last visit.

C. Invite dental assistant to visit class and talk with students.

D. Visit a college or institute where dental personnel are trained.

E. Study a chart of the teeth showing the age of eruption.

F. Make a television out of a cardboard box and draw pictures to illustrate the duties of the dental assistant.

G. Study of the teeth and X-rays

H. Make dental impression with paraffin wax and make plaster of paris mold.

IV. Conclusion (to be related to hypothesis)

V. Presentation

A. A television show about the duties of a dental assistant

B. A display of molds of the teeth

C. Compose poems about the teeth

VI. Evaluation (see detailed units)

Related Disciplines: math, science, art, social studies, language arts

Resources: American Dental Assistants Association, 211 East Chicago Avenue, Chicago, Illinois 60611; Division of Dental Health, Public Health Service, U. S. Department of Health, Education and Welfare, Washington, D. C. 20201.

UNIT TWENTY-THREE

Cluster: Health Service Occupation

Family: Medicine

Career: Registered Nurse

Suggested Problem: What are the responsibilities of a registered nurse?

I. Introductory Activities

A. Interest center containing stethoscope, thermometer, sphygmomanometer, bandages, hypodermic syringe, microscope, slides, uniforms, human torso with removable parts, etc. Arrange a reference shelf with related materials.

- B. Discussion
 - 1. What is known (use black board)
 - a. A registered nurse works in a hospital
 - b. A registered nurse gives shots
 - c. A nurse works with a doctor
 - 2. What we need to know (use black board)
 - a. What is the salary of a registered nurse?
 - b. How much training is required?
 - c. What different kinds of nursing jobs are there? (pediatric, operating room, etc.)
 - II. Hypothesis (to be formulated by individuals or a group of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Review the film
 - B. Invite a registered nurse to speak to class
 - C. Children use reference materials, handle instruments, count pulse, take temperature, etc.
 - D. Visit a hospital or school of nursing
 - E. Investigate thoroughly the work of the registered nurse, salaries, training requirements, occupational opportunities, etc.
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. Make a bulletin board containing nursing careers.
 - B. Make a mobile using the shade frame and stand of an old floor lamp. Cut symbols of nursing careers from valley tin or aluminum. Write nursing careers on tape and stick on back of symbols, attach to frame with string.
 - C. Make a peek box representing a hospital equipped with furniture and workers.
 - D. Do a shadow show operation.
 - E. Make life size body parts from clay.
 - F. Make a model TV from a box. Give each child a yard of white wrapping paper of proper width to fit screen. Let each child contribute original work for stapling together to make a TV film on "A Day at the Hospital."
 - VI. Evaluation (see detailed units)
- Related Disciplines: science, math, health, language arts

UNIT TWENTY-FOUR

Cluster: Health Occupations

Family: Dental Personnel

Career: Dental Hygienist

Suggested Problem: What is the work of a dental hygienist?

I. Introductory Activities

- A. Interest center displaying tools of dentistry such as dental charts, disclosing tablets for plaque, forms of fluorides, dental floss, toothbrush, cotton rolls, mouth x-ray
- B. Discussion
 - 1. What is known
 - a. That this person has a job that is related to teeth.
 - b. That the person (dental hygienist) cleans teeth.
 - c. That she works under the supervision of a dentist.

2. Need to know
 - a. Other jobs she may hold
 - b. Training needed
 - c. Salary
 - II. Hypothesis (to be formulated by individual or by groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Make charts of decay and disease, mix fillings.
 - B. Visit schools to learn about dental health education.
 - C. Study of work in health agencies, also health education
 - D. Study of work in Armed Forces (Civilian Employee)
 - E. Study of work in research
 - F. Study of minimum and maximum requirements to be licensed
 - G. Interview a dental hygienist to determine personal characteristics for a successful career in dental hygiene such as: ability to work with people, manual dexterity, etc.
 - IV. Conclusion (to be formulated based on hypothesis)
 - V. Presentation
 - A. A skit involving two students: Role play the dental hygienist and the supervising dentist.
 - B. Make a tape of the various places a dental hygienist may work. Make a hand-turned crude movie showing illustrations to accompany the tape.
 - C. Role play the dental hygienist applying for a job in the private dental office. Let the dentist interview her. This will reveal her training, his expectations, working hours and pay.
 - VI. Evaluation (see detailed units)
- Related Disciplines: health, art, language arts
- Resources: Occupational Outlook Handbook, 1970-71 Edition
 American Dental Hygienists Association, 211 East Chicago Avenue, Chicago, Illinois 60611; Division of Dental Health, Public Health Service, U. S. Department, HEW, Washington, D. C.

UNIT TWENTY-FIVE

- Cluster: Health Careers
 Family: Medicine
 Career: Laboratory Assistant
 Suggested Problem: What is the work of a laboratory assistant in the medical field?
- I. Introductory Activities
 - A. Interest center containing a microscope, prepared slides, materials for making slides, for doing simple laboratory tests such as the sugar and acetone test for urinalysis, for blood typing, for bacteria cultures and for sterilization of instruments
 - B. Discussion
 1. What is known
 - a. A laboratory assistant works in a laboratory.
 - b. A laboratory assistant works with a laboratory technician.
 2. What we want to know
 - a. How can I become a laboratory assistant?
 - b. How much is a laboratory assistant paid?
 - c. What qualifications are needed?
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Show film about laboratory workers.

- B. Invite a laboratory assistant to speak to the class.
 - C. Use research materials to find answers about the laboratory assistant and his career.
 - D. Run simple laboratory tests and record results; prepare and study slides; grow a colony of bacteria and examine under microscope; learn systems of the body and their functions; study human parasites and what to do to control them.
 - IV. Conclusion (to be formulated in relation to hypothesis)
 - V. Presentation
 - A. Display posters of body parts.
 - B. Debate the topic "Resolved that the United States should have socialized medicine."
 - C. Have a sing-along with the class singing "Dem Bones" to record accompaniment.
 - VI. Evaluation (see detailed units)
- Related Disciplines: science, health, language arts, social studies

UNIT TWENTY-SIX

Cluster: Recreation and Hospitality

Family: Amusement

Career: Movie Projectionist

Suggested Problem: What are the duties of a movie projectionist?

- I. Introductory Activities
 - A. Have room decorated with movie posters and advertisements prior to arrival of children.
 - B. Display help wanted poster for "most important employee" at local theater.
 - C. Read "silly riddles" and have students write answers--ex.
 - I work at the movies--
 - You never see me.
 - But if I'm not there
 - There's no movie to see!
 - D. Discussion
 - 1. What is known
 - a. A movie projectionist is the career described in the riddles.
 - b. The projectionist shows films.
 - c. The projectionist plays a necessary role in the movie theater.
 - d. The projectionist must be mechanically minded.
 - 2. Need to know
 - a. How does one become a projectionist?
 - b. How many projectionists work at a theater?
 - c. Is a projectionist restricted to a definite routine?
 - d. Are there different kinds of projectors and other machines that he must know how to operate?
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Interview a movie projectionist.
 - B. Each student should study and learn to operate a projector and splice film.
 - C. Visit local theater and explore projection booth.
- IV. Conclusion (to be related to hypothesis)

- V. Presentation
 - A. Demonstrate threading and rewinding of various projectors.
 - B. Demonstrate splicing of film.
 - C. Select film, prepare a marquee, and present to group.
 - VI. Evaluation (see detailed units)
- Related Disciplines: mechanics, art, language arts
- Resources: Local Union of International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the U. S. and Canada;
OCCUPATIONAL OUTLOOK HANDBOOK.

UNIT TWENTY-SEVEN

- Cluster: Hospitality and Recreation
Family: Sports and Athletics
Career: Bait Grower
- Suggested Problem: What must a bait grower know in order to perform his work?
- I. Introductory Activities
 - A. Interest Center displaying worms in jars--carton packaged; invitation to class to participate in growing fish bait (earth worms, red worms)
 - B. Discussion
 - 1. What is known
 - a. Worms are slick, slimy, wiggly and dirty.
 - b. Require food, right temperature
 - c. Product used widely during warmer season
 - d. Do not require constant care
 - e. They are in demand by fishing sportsmen.
 - 2. Need to know
 - a. The incubation period
 - b. How to prepare worm bed
 - c. How much and how often to feed
 - d. If license is required
 - e. Sale price
 - II. Hypothesis (to be formulated by individuals or groups)
 - III. Investigation - Study - Hands-on Experiences
 - A. Construct suitable bed using liquid, metal tub, food substance, live worms, worm eggs.
 - B. Hammer, nails, thermometer, litmus paper, nature books
 - C. National Geographic, State magazine, resource people, Farm Journal
 - D. Study soil depth for planting worms
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. Display bait bed.
 - B. Display charts showing make-up of bed.
 - C. Show cartoons depicting problems of bait growers.
 - D. Original Song: "Wiggley, Wiggley Little Red Worm" (Tune - "Twinkle, Twinkle Little Star")

Softly rolled in a bundle of goo
Many of my friends show fear of you.
Can't they see you're full of grace,
The way you run, and win a race?
Wiggley, wiggley, little red worm
Run fast as you can
Out of their hands--Squirm!

Shining hooks, set in brilliant glow
 Ready to "thread" you this I know.
 Dash away "Red Worm"--Snuggle deep
 Beneath your bed--stay fast asleep.
 Wiggley, wiggley little red worm
 Don't be a "rover"--Show Concern!

Note: Make up motions, if desired--hands, head, body

UNIT TWENTY-EIGHT

Cluster: Hospitality and Recreation

Family: Sports and Athletics

Career: Professional Athlete

Suggested Problem: What is life as a professional athlete like?

I. Introductory Activities

A. Ask the students to bring in sports magazines and books about sports heroes such as Jack Nicklaus, golf; Brian Priccolo or Roman Gabriel, football; Willy Mays, baseball; Wilt Chamberlain, basketball; T-shirts and caps with athletic symbols; posters of athletes; school notebooks with pro symbols.

B. Discussion

1. What is known

- a. The pro athlete is a public idol.
- b. He makes a lot of money.
- c. He usually shows "promise" of being a star while in high school.
- d. Pro athletes are young.
- e. Some get hurt while performing.
- f. There are many types of pro sports.

2. Need to know

- a. What personal characteristics make a great pro athlete?
- b. Can women be pro athletes?
- c. Do all sports have professional players?
- d. Is it easy to keep a job as a pro athlete?
- e. What are the requirements to become a pro in each sport?

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

- A. Study of personal characteristics of pro athletes: Make collections of biographies of famous athletes. Make critical analysis about characteristics.
- B. Study of salaries of pro athletes: Make chart
- C. Study kinds of contracts offered: Write professional organizations such as PGA, NFL for this and other pertinent information.
- D. Study of living conditions: Make comparative analysis of famous athletes.
- E. Study of educational requirements
- F. Have pro athlete visit class.
- G. Attend a pro ball game as a class group. Visit with team following game.

IV. Conclusion (to be related to hypothesis established)

V. Presentation: Communication of investigation results

- A. Divide the various sports according to the interests of the students.

They could work in groups or individually and present skits depicting the life of a pro athlete in training, demonstrating a technique, or being interviewed before a match.

- B. Make and present a chart comparing the salaries of pro athletes.
- C. Present a panel discussion between girls and boys in which one side points out the advantages of a girl tennis player over a boy tennis player.
- D. Display letters and materials received from professional athletic organizations such as PGA and NFL.

VI. Evaluation (see detailed units)

Related Disciplines: language arts

Resources: An individual pro athlete; any of the professional organizations such as PGA, National Hockey League, Cougars of North Carolina.

UNIT TWENTY-NINE

Cluster: Hospitality and Recreation

Family: Parks

Career: Zoo Keeper

Suggested Problem: What knowledge and training does the job of a zoo keeper require?

I. Introductory Activities

A. Have students personify animals that you would find in a zoo.

B. Discussion

1. What is known

- a. Animals are displayed in a zoo.
- b. Animals in a zoo are not in their natural habitat and therefore have to be tended.
- c. Animals in a zoo must be treated humanely.

2. Need to know

- a. Responsibilities of the zoo keeper
- b. Personal qualities necessary for becoming a zoo keeper
- c. Knowledge and education necessary for becoming a zoo keeper
- d. Location of zoo in your area

II. Hypothesis (to be formulated by individuals or groups of students)

III. Investigation - Study - Hands-on Experiences

A. Visit a zoo.

B. Interview a zoo keeper.

C. Check into governmental regulations about zoos.

D. Study of locations for opportunities in employment.

IV. Conclusion (to be based on hypothesis)

V. Presentation

A. Construct a model zoo.

B. Make maps showing original habitats of animals.

C. Produce a skit depicting a day in the life of a zoo keeper.

VI. Evaluation (see detailed units)

Related Disciplines: science, art, math, social studies

UNIT THIRTY

Cluster: Hospitality and Recreation

Family: Food Service

Career: Caterer

Suggested Problem: What kind of work does a caterer do?

I. Introductory Activities

A. A buffet of very appetizing refreshments

B. Discussion

1. What is known

a. A caterer prepares food for parties.

b. A caterer is a good cook.

c. A caterer is a decorator.

2. Need to know

a. Knowledge of food preparation techniques

b. How to deal with people

c. Knowledge of decorating

d. How to follow a recipe

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

A. Visit a catering firm, a hotel or restaurant

B. Examine various tools used, such as cookie cutters, etc.

C. Make decorations for tables using particular themes.

D. Collect favorite recipes and compose a recipe book.

E. Practice setting and decorating a table.

F. Use a simple recipe to make cookies or candy to be used in a party.

IV. Conclusion (to be related to hypothesis established)

V. Presentation

A. Give a class party with students taking complete charge of food selection, buying, budgeting, preparation and serving; entertainment and appropriate decorations.

B. Pass out copies of the recipe book.

VI. Evaluation

A. Were the decorations appropriate for the occasion?

B. Was the food appetizing?

C. How well were the refreshments served?

D. Was the hypothesis proven?

E. Was the menu appropriate?

Related Disciplines: arithmetic, English, art, social studies, business, home economics

Sources of Additional Information: PARTY BOOK FOR BOYS AND GIRLS, By Bernice Carlson, Abingdon, 1962; PARTY CUES FOR TEENS, by Florence Hamsher, Doubleday, 1957; Educational Director, National Restaurant Association, 1530 North Lake Shore Drive, Chicago, Illinois 60610; Council on Hotel, Restaurant and Institutional Education, Statler Hall, Cornell University, Ithaca, N. Y. 14850.

UNIT THIRTY-ONE

Cluster: Marine Science Occupations

Family: Fishermen

Career: Shrimp Fishermen

Suggested Problem: How does a shrimp fisherman work?

I. Introductory Activities

A. Present each student with shrimp prepared for him to eat.

- B. Discussion
 - 1. What is known
 - a. Shrimp are cultivated from salt water by fishermen.
 - b. Shrimping is a heavily engaged in occupation in coastal North Carolina.
 - c. Shrimp are caught in nets pulled by boats.
 - d. Shrimp taste very good and are easily sold.
 - 2. Need to know
 - a. How nets are made
 - b. How nets are pulled
 - c. Way shrimp is marketed
 - II. Hypothesis (to be formulated by individuals or groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Examine manufacture of nets.
 - B. Interview shrimp fisherman.
 - C. Study of marketing of shrimp--write for information from the North Carolina Department of Fisheries. Find out how shrimp boats are built, how fast they travel, how much they cost.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation: stating problem and how it was solved
 - A. Games, skits
 - B. Model of a shrimp boat
 - C. Sing "Shrimp Boats Is A-Comin"
 - D. Mural showing shrimp fleet at work
 - E. Map showing where shrimping is done along North Carolina coast and in harbors
 - VI. Evaluation (see detailed units)
- Related Disciplines: science, art

UNIT THIRTY-TWO

- Cluster: Marketing and Distribution
 Family: Merchandising
 Career: Modeling
 Suggested Problem: What training does a fashion model need?
- I. Introductory Activities
 - A. Interest center displaying fashion magazines, pattern books, scraps of materials, items such as sequins, beads, trim, lace, needles, thread, scraps of corrugated board and/or wood, nails, hammer, paste, paints, etc.
 - B. Discussion
 - 1. What is known
 - a. Models are pretty and need pleasing personalities.
 - b. Many kinds of models need specific training for a particular type of modeling.
 - 2. Need to know
 - a. Are models in demand locally?
 - b. Are there local schools for training models?
 - c. Where could the class observe models at work or in training on a field trip?
 - II. Hypothesis (to be formulated by individuals or groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Take a field trip to a school for models or a showroom where they work

- B. Collect other materials to add to interest center.
 - C. Plan a fashion show using dolls and props centered around a theme.
 - D. Resource person to discuss how fashion shows are organized
 - E. Interview a model to learn about entering the field.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. Present a fashion show using dolls for presentations, centered around a theme, using music and prepared commentary.
 - B. Skit illustrating the location of leading fashion centers such as Paris and London.
 - VI. Evaluation (see detailed units)
- Related Disciplines: math, social studies, language arts
 Resources: OCCUPATIONAL OUTLOOK HANDBOOK, p. 238; Desk Top Career Box, Model 297.

UNIT THIRTY-THREE

Cluster: Marketing and Distribution

Family: Salesman

Career: Real Estate Agent

Suggested Problem: What are the responsibilities of a real estate salesman?

- I. Introductory Activities
 - A. Set up table with various objects that can be identified as part of the Marketing and Distribution cluster. Use such things as socks, wire, pencils, nails, toy cash register, receipt books, and housing brochures. Students examine and discuss objects into families according to their relationships. Students then select a career within the family for in-depth study.
 - B. Discussion
 - 1. What is known
 - a. Real estate agents represent property owners who want to sell.
 - b. Real estate agents need some specific training in their fields.
 - c. Real estate agents must know something about the construction of the building or house they are attempting to sell.
 - 2. Need to know
 - a. What training and qualifications are necessary to become a real estate agent?
 - b. What personal characteristics are assets to a successful real estate agent?
 - c. What is the salary range and what are the opportunities for advancement in this field?
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Interview a real estate agent. Discover what he needs to know about the construction of housing, the neighborhoods in which he operates, and the psychology of dealing with people.
 - B. Accompany a real estate agent on the job.
 - C. Collect and compare classified "House for Sale" ads--create original ones.
 - D. Books
 - E. Write: National Association of Real Estate Board, Department of Education, 155 East Superior Street, Chicago, Illinois 60611.
 - F. Interview parents or other people who have dealt with real estate agents. Discover what personal characteristics and knowledge the real estate agent possessed that impressed them the most.

- IV. Conclusion (to be related to established hypothesis)
 - V. Presentation
 - A. Role playing using a real estate agent and a prospective buyer
 - B. Oral report
 - C. Graph showing increase in employment of real estate agents over the last ten years
 - D. Display original help wanted ads for real estate agents
 - E. Make a film strip with transparencies showing the different facets of this career.
 - F. Present a tape recording of an interview with a real estate agent.
 - VI. Evaluation
 - A. Was the study related to the major ideas under investigation?
 - B. What were the evidences of research and was the research well done?
 - C. Was the hypothesis proved or disproved satisfactorily?
 - D. Was the presentation interesting and suitable?
- Related Disciplines: language arts, social studies, economics, math

UNIT THIRTY-FOUR

- Cluster: Marketing and Distribution
 Family: Warehousing
 Career: Tobacco Stacker
 Suggested Problem: What is the work of a tobacco stacker?
- I. Introductory Activities
 - A. Interest center displaying model of warehouse with dried tobacco samples in baskets made of wood
 - B. Discussion
 - 1. What is known
 - a. Most tobacco warehouses need a stacker.
 - b. Work long hours during day
 - c. Work is seasonal with tobacco in the warehouse.
 - 2. Need to know
 - a. Rate of salary
 - b. What is the beginning age of a tobacco stacker?
 - c. Does tobacco stacker need more than one job?
 - d. Is there more than one way to stack tobacco?
 - e. How important is the appearance of stacked tobacco?
 - II. Hypothesis (to be formulated by individuals or groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Visit local warehouse
 - B. Interview a tobacco stacker
 - C. Examine sales slips and actual process of buying and selling of tobacco
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. Demonstration of tobacco stacker at work
 - B. Charts showing steps in stacking tobacco
 - C. Mural showing a warehouse with stacked tobacco
 - VI. Evaluation (see detailed units)
- Related Disciplines: social studies, math, art, language arts

UNIT THIRTY-FIVE

Cluster: Marketing and Distribution

Family: Advertising

Career: Copywriter

Suggested Problem: How does the creativity of a copywriter influence his work?

I. Introductory Activities

- A. Display headlines, slogans, and texts that are in ads on a bulletin board.
- B. Ask a group of students to explore magazines and newspapers to discover ads which appeal to special groups: (1) housewives, (2) businessmen, (3) scientists, (4) teenagers.
- C. Display one item. Ask all students to write slogans to sell the item appealing to (a) housewives, (b) teenagers.
- D. Discussion
 1. What is known
 - a. Copywriters need to be creative.
 - b. There are different kinds of copywriters.
 - c. Both men and women may be copywriters.
 2. Need to know
 - a. What a copywriter does
 - b. What qualifications he must have
 - c. What are the places of employment

II. Hypothesis (to be formulated by individuals or group of students)

III. Investigation - Study - Hands-on Experiences

- A. Visit an advertising department to observe and interview a copywriter.
- B. Display or draw tools a copywriter uses. Include a dictionary and a thesaurus.
- C. Visit advertising agencies, agencies in manufacturing companies, stores, and other organizations having products or services to sell.

IV. Conclusion (based on hypothesis)

V. Presentation

- A. Prepare a skit showing the sequence of a copywriter's work and training
- B. Exhibit the products (slogans, headlines, texts) of a copywriter on a bulletin board or poster.
- C. Prepare creative stories and poems about a copywriter in an advertising agency.

VI. Evaluation (see detailed units)

Related Disciplines: language arts, art

UNIT THIRTY-SIX

Cluster: Marketing and Distribution

Family: Advertising

Career: Commercial Artist

Suggested Problem: What is the work of a commercial artist?

I. Introductory Activities

- A. Inquiry Interest Center: On a table place various items that a commercial artist uses in his work along with items used in other occupations. The students will group the items in the way that they see them related. On the board the spelling of three careers including

commercial artist will be scrambled. The students will unscramble the careers and relate the words and identify the career with the items. If the students are unsuccessful, these objects should remain until the end of the unit. Students should be allowed to make changes during the unit as they become more knowledgeable. However, concentration will be on the items that a commercial artist uses.

B. Discussion

1. What is known

- a. He draws.
- b. He must be artistic and creative.
- c. Uses special drawing tools and materials
- d. Works in the advertising field
- e. Knowledgeable in art
- f. Must be organized

2. Need to know

- a. Where they work? For whom they work?
- b. Educational requirements
- c. Kinds of commercial artists

II. Hypothesis (to be formulated by students)

III. Investigation - Study - Hands-on Experiences

- A. Study materials and tools used by a commercial artist.
- B. Invite a reputable person employed as a commercial artist to visit the class.
- C. Take a trip to an advertising agency, and/or a large department store.
- D. Visit a school where commercial artists are trained.

IV. Conclusion (to be related to hypothesis established)

V. Presentation

- A. Verbal and written reports on outstanding commercial artists with illustrations of their art.
- B. Present collages related to advertising.
- C. Compose an original advertisement on large poster paper, present to class and actually try to sell the product or service. Evaluate it on such qualities as illustration, color, headline, size, etc.
- D. Advertise a school event.
- E. Bulletin board display of commercial artists
- F. Cut out advertisements that have instant appeal and some that do not draw attention. Tell whether the success or failure of the advertisement had anything to do with the commercial artists' work.
- G. Play game entitled Commercial Art Bingo which is played like regular bingo. Questions are asked and the answers are covered. They may win down, across, or diagonally.

VI. Evaluation

- A. Do your students understand what a commercial artist is and what he does?
- B. Was the presentation well organized?
- C. Was hypothesis proved?
- D. Was the presentation interesting and informative?

Related Disciplines: art, math, language arts, spelling, social studies, music, science

Resources: Books - MARKETING, SALES PROMOTION, ADVERTISING, Nolan Warmks
ADVERTISING, Wright and Warren

UNIT THIRTY-SEVEN

Cluster: Marketing and Distribution

Family: Merchandising

Career: Fashion Designer

Suggested Problem: What special characteristics should a person have who wishes to become a fashion designer?

- I. Introductory Activities
 - A. Prepare a bulletin board of prints by famous artists of portraits of women depicting clothing of different eras and cultures. (Examples: Renaissance Europe, Elizabethan England, Colonial America, Indian, Chinese, etc.)
 - B. Discussion
 1. What is known
 - a. Designers must be good artists.
 - b. Paris is considered fashion center of the world.
 2. What is not known
 - a. What previous training is necessary?
 - b. Can a fashion designer work in a large company?
- II. Hypothesis (to be formulated by individuals or groups of students)
- III. Investigation - Study - Hands-on Experiences
 - A. Things to read
 1. "Custom Tailors and Dressmakers" SRA Occupational Brief #24, 1964
 2. IT'S SO, SEW EASY, by Vivian Bancroft. Burgess, 1962
 3. SEW FAR, SEW GOOD, by Peggy Hoffman. Dutton, 1958
 4. YOUR FUTURE IN THE FASHION WORLD, by Olive P. Gately. The Fashion Group, 1960
 5. Fashion magazines (VOGUE, HARPERS BAZAAR, MADEMOISELLE, SEVENTEEN)
 - B. Interview buyers at local department stores for information about designers.
 - C. Write for information and demonstrations from organizations (list and addresses at end of unit)
 - D. Attend several movies, preferably those of another historical era, make notes and sketches of clothing designs used.
- IV. Conclusion (to be based on hypothesis)
- V. Presentation: communicating knowledge learned
 - A. Using Barbie or other dolls, design and construct several outfits for different occasions.
 - B. Prepare a simulated TV interview with a successful dress designer.
 - C. Stage an opening of a leading designer, having models and an emcee describing fashions shown.
 - D. Choose a book and pretend to be the designer. Create designs for characters.
- VI. Evaluation (see detailed units)

Related Disciplines: art, social studies, home economics

Resources: International Association of Clothing Designers, 125 Twelfth Street, Philadelphia, Pa.; National Dress Manufacturers Association, Inc., 570 Seventh Avenue, New York, N. Y. 10018; American Apparel Manufacturers Association, Inc., 2000 K Street, N.W., Washington, D. C.; Clothing Manufacturers Association of USA, 135 West 50th Street, New York, N. Y. 10020; National Outerwear and Sportswear Association, Inc., 347 Fifth Avenue, New York, N. Y. 10016; United Garment Workers of America, 31 Union Square, New York, N. Y. 10003

Films: "Batik Discovered," Bailey, 9 minutes, color; "Color Keying in Art and Living," EBF, 11 minutes, color; "Discovering Light and Dark," Film Association, 18 minutes, color; "Discovering Texture," Film Association, 17 1/2 minutes, color; "The Louvre," EBF, 45 minutes, color.

UNIT THIRTY-EIGHT

Cluster: Marketing and Distribution

Family: Salesman

Career: Manufacturers' Salesman--Duplicating supplies

Suggested Problem: What special qualities are needed to become a manufacturer's salesman?

I. Introductory Activities

A. Interest center containing an assortment of stencils, typewriter ribbons, carbon paper, eraser tape, masters, etc. Have each student select an article and write a sales presentation for that item.

B. Discussion

1. What is known

- A salesman must know his product.
- A manufacturer's salesman has irregular hours.
- A salesman writes up orders.

2. Need to know

- How much money does a salesman make?
- What kind of training must a salesman have?
- Is there room for advancement?
- Where do the salesmen go to sell their product?

II. Hypothesis (to be formulated by individuals or groups of students)

III. Investigation - Study - Hands-on Experiences

- Have a salesman come in and talk to the class.
- Observe a sales presentation at a company if possible.
- Have students set up a company, complete with names (etc.) and divide the class, having half act as buyers for their company and half as salesmen.
- Invent a new product in the line of duplicating supplies.

IV. Conclusion (based on hypothesis)

V. Presentation

- Make a sales presentation to the class.
- Skit, play, story
- Exhibit new product and try to sell to rest of class (or principal)

VI. Evaluation (see detailed units)

Related Disciplines: language arts, art, social studies, math

Resources: Sales and Marketing Executives, International Youth Education Division, 630 Third Avenue, New York, N. Y. 10017

UNIT THIRTY-NINE

Cluster: Transportation

Family: Highway

Career: Taxi Driver

Suggested Problem: What qualities are needed for the particular responsibilities of a taxi driver?

- I. Introductory Activities
 - A. Inquiry Interest Center: Set up a display of transportation vehicles-- taxis, trucks, toy train, bus, airplane, etc.--for the children to observe. Also have a two-way radio set up from a simulated taxi to the dispatcher and have a driver there to show them how it works.
 - B. Discussion
 1. What is known
 - a. A taxi driver transports people from one place to another.
 - b. A taxi driver needs a chauffeur's license.
 2. Need to know
 - a. Do drivers own their own cabs?
 - b. What kind of training does one need to drive a taxi?
 - c. How much money does a taxi driver make?
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Visit a taxi station and observe how it operates. If possible allow the students to ride in a taxi.
 - B. Make a model of a taxi station complete with stops, etc.
 - C. Take a map of the particular city and have the students map out the various taxi stands.
 - D. Write a skit involving the process from the time a person places a call to the taxi company until he reaches his destination.
 - E. Have the students prepare an original game similar to Monopoly involving the taxi service and related transportation.
 - IV. Conclusion (to be related to the hypothesis established)
 - V. Presentation
 - A. Write a diary of a month in the life of a taxi driver.
 - B. Pantomimes, stories, skits, role playing
 - VI. Evaluation (see detailed units)
- Related Disciplines: social studies

UNIT FORTY

Cluster: Transportation

Family: Highway

Career: Service Station Attendant

Suggested Problem: What is necessary for a service station attendant to serve the public effectively?

- I. Introductory Activities
 - A. Show articles used by the service station attendant to the class and ask each member to write down what they are. (Examples: air gauge, oil spout, transmission fluid spout, grease gun) Show them a check-list to correct their answers.
 - B. Discussion
 1. What is known
 - a. A service station attendant needs these tools.
 - b. A service station attendant pumps gas for his customers and does some minor mechanical jobs.
 - c. A service station attendant need not have any formal education but he must have knowledge of simple math and simple mechanics.
 2. Need to know
 - a. Ways that the service station attendant uses articles in the interest center

- b. Personal qualifications for the job
 - c. Ways that you can be trained to be an attendant
 - d. Avenues of advancement as a result of being an attendant
 - e. Availability of jobs
 - f. Required physical condition
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Study of the use of tools and jobs performed by the attendant-- field trip to station to observe attendant at work, films, filmstrips, actual collection of tools demonstrated by a visiting service station attendant.
 - B. Study of personal qualifications for the job--books, people-- interview several service station attendants. Take notes, compare.
 - C. Study of possible training resource person--D. E. teacher in your area
 - D. Study of possible advancement opportunities--resource people (representative of a major oil company), books
 - E. Study of availability of jobs--resource people, survey of number of service stations in your area, books
 - F. Study of required physical condition--books, interviews
- IV. Conclusion (to be related to hypothesis established)
- V. Presentation: Stating problem and communicating investigations
 - A. Skit or role playing situation of attendant serving customers
 - B. Model of a service station or bulletin board of service station attendants at work
 - C. Stories - original short stories centering around life of service station attendant including humorous situations that might arise. Poems - form poems which include sounds of the service station.
 - D. Transparencies, maps with locations of service stations designated.
- VI. Evaluation (see detailed units)

Related Disciplines: science, math, social studies

UNIT FORTY-ONE

Cluster: Transportation

Family: Civil Aviation

Career: Airline Dispatcher

Suggested Problem: What special training is required to become an airline dispatcher?

- I. Introductory Activities
 - A. Interest center displaying brochures from FAA on airline dispatcher, ICC on transportation. Show film on FAA transportation jobs.
 - B. Discussion
 - 1. What is known
 - a. He coordinates flight schedules and operations.
 - b. Watches weather condition
 - c. Plans the best flight route
 - d. Carries out Federal Aviation Administration and company flight and safety regulations.
 - 2. What is not known
 - a. What education or training is necessary to become a dispatcher?
 - b. What hours does the dispatcher work?

- c. What are the working hours?
 - d. How much demand is there?
 - e. What is the salary range?
 - II. Hypothesis (to be formulated by students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Visit the airport and record any unusual happening that might occur.
 - B. Interview a dispatcher.
 - C. Have students find out what conditions permit or cancel a flight.
 - D. Compile a list and description of terms used by a dispatcher.
 - E. Make a list of careers which are directly related to a dispatcher's job.
 - F. Show a film relevant to a dispatcher's job.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. Play a scrabble game with the class using terms relating to airline dispatcher's job.
 - B. Skit depicting a confused situation at the airport which the dispatcher must straighten out.
 - C. Play "What's My Line?" using careers directly related to the dispatcher's career.
 - VI. Evaluation (see detailed units)
- Related Disciplines: science, language arts
- Resources: Airline Pilots Association International, 1329 E Street, N.W., Washington, D. C. 20004; for lecture, Mr. Morton, Delta Airlines Public Relation Department, Charlotte, N. C.

UNIT FORTY-TWO

- Cluster: Transportation
 Family: Highway
 Career: Auto Mechanic
 Suggested Problem: What does an auto mechanic need to know?
- I. Introductory Activities
 - A. Interest center table displaying piston, piston ring, carburetor, spark plug, points, wiring, etc., or as many parts of a motor as are available.
 - B. Discussion
 - 1. What is known
 - a. People who work with cars are auto mechanics.
 - b. People who work with motors must have a knowledge of science.
 - c. Auto mechanics get their hands dirty.
 - d. Odors are noticeable in a garage.
 - e. There may be a shortage of mechanics.
 - 2. What do we need to know
 - a. How does an auto mechanic acquire his training?
 - b. What tools and equipment does he use?
 - c. How does he tell what is wrong with the engine?
 - d. Is there specialization in the auto mechanic field?
 - e. What interests and abilities would be helpful to an auto mechanic?
 - II. Hypothesis (to be formulated by individuals or groups of students)
 - III. Investigation - Study - Hands-on Experiences
 - A. Field trip to observe mechanic at work, tools and equipment used.

- B. Look under hood of auto and identify two or four barrel carburetor, alternator, block, etc.
 - C. Check the gap of the spark plug.
 - D. Disassemble, clean and reassemble an engine. (For simplicity, may use small engine from lawn mower.)
 - E. Prepare a checklist for preventive maintenance.
 - IV. Conclusion (based on hypothesis)
 - V. Presentation
 - A. An exhibit of disassembled engine and demonstration of reassembling
 - B. Mock interviews with an auto mechanic in which he tells about training and salary range
 - VI. Evaluation (see detailed units)
- Related Disciplines: math, science
- Resources: Local union; local office of state employment service; Automotive Service Industry Association, 168 N. Michigan Avenue, Chicago, Illinois 60601; Independent Garage Owners of America, Inc., 624 S. Michigan Avenue, Chicago, Illinois 60605; National Automobile Dealers Association, 2000 K Street, N.W., Washington, D. C. 20006; SRA Career Information, Occupational Outlook Handbook; want ads; Desk-Top Career Kit

UNIT FORTY-THREE

Cluster: Transportation

Family: Civil Aviation

Career: Airline Pilot

Suggested Problem: What are the requirements of an airline pilot?

- I. Introductory Activities
 - A. Set up an interest center for investigation by the students.
 - 1. Display plane instruments, flight rulers, maps, computers, flight weather charts, etc. borrowed from nearby airport.
 - 2. Include books on flight transportation and other transportation road maps
 - 3. Make a list of many types of transportation.
 - 4. Display magazines from the library that would have some information relevant to transportation.
 - B. Discussion
 - 1. What is known
 - a. He must be able to read and interpret many different instruments.
 - b. He must have a keen eyesight.
 - c. He must be a fast, logical thinker.
 - d. He must have an in-depth understanding of math.
 - 2. What is not known
 - a. What type training or education does an airline pilot need?
 - b. How much demand is there for pilots?
 - c. What are some of the bad points of an airline pilot's job?
- II. Hypothesis (to be formulated by students)
- III. Investigation - Study - Hands-on Experiences
 - A. Invite a pilot to speak to the class.
 - B. Visit an airport--examine a passenger plane cockpit.
 - C. View a film of an airline pilot career.
 - D. Make a collage depicting different phases a pilot must go through in his training.

- E. Let volunteers do own research for reporting to class--make brief.
 - F. Let volunteers bring in model passenger planes and prepare some technicalities about the same.
 - F. Compile a booklet giving specific information on job requirements.
 - IV. Conclusion (to be based on hypothesis)
 - V. Presentation
 - A. A skit by volunteers who were not involved in bringing in models and written presentations. Skit could portray a good conscientious pilot and the other could portray the opposite.
 - B. Display models brought in.
 - VI. Evaluation (see detailed units)
- Related Disciplines: math, language arts, science, social studies
- Resources: Delta Airline Public Relation Department (Mr. Morton), Charlotte, N. C.; Airline Pilots Association International, 1329 East Street, N.W., Washington, D. C. 20004

APPENDIX A

ACTIVITIES

Communications and Media

*Telephone Operator	Dispatcher
*Telegraph	*Security Guard
*Lineman	Accountant Clerk
*Frame Man	*Guides
*Receptionist	*Printers
*Personnel Manager	Photo Engravers
*Service Man	*Cartoonist
*Disc Jockey	*Sportswriter
*Announcer	Stacker (of paper)
*Computer Operator	Traffic Manager
*Newscaster	Truck Driver
*Actor	*Columnist
Betty Feezor	*Feature Writers
*Teletype Operator	*Proof Reader
*Ad Man	Group Chief Operator
Bus Driver	Job Service Assistant
*Cameramen	*Advertising
Public Relations	*Salesman
*Prop Man	*Typist
*Cue Card Man	*Layout
*Sound	*Editor
*Lights	

Marketing and Distribution

*Administration	*Wholesale
*Packaging Design	*Shipping
*Advertising	*Receiving
*Buyer	*Service
*Salesman	*Retail Clerk
Trucker	*Cashier

Health Services

Public Health Nurse	Orderly
Physical Therapist	Dietician
Dental Assistant	Laboratory Technician
Anesthetist	Medical Librarian (2 years)
X-Ray	Medical Illustrator
RN	Veterinarian Assistant
Technical Engineer	

*Hands-on experiences.

APPENDIX A Continued

Hospitality

*Ticket-taker	*Cook
*Waitress	*Music
*Hostess	*Light
*Decorator (Napkins, costumes, placemats)	*Manager
*Tour Guide	*Bouncer

Recreation

Zoo Keeper	Pro-Coach
*Tour Guide	*Concession Stand Operator
*Custodian	*Grounds Keeper
*Park Designer	

Construction

*Blueprint	*Clam Bucket Operator
*Survey	*Carpenter
*Assembler	*Brick Mason
*Interior Decorator	*Welding (wood)
*Plumbing	*Wall Paper
*Bull Dozer Operator	*Tools - Crib Distributor
*Grader Operator	*Painter
*Pan Operator	*Drafting
*Crane Operator	*Landscaping

Manufacturing

*Electroplating	
*Upholstering	
*Pattern Making	
*Sanding	} affiliate careers
*Carpenter	
*Painting	

*Hands-on experiences.

APPENDIX B

GUIDE TO FIELD TRIPS

1. How many different kinds of careers did you discover on this field trip?
2. What are the working hours?
3. What is the salary range?
4. Describe the working environment.
5. Would you like to work here? Why?
6. How would you describe one of these careers to someone else?
7. How would you "sell" this career to someone?
8. What would happen if this particular career became obsolete?
9. What are some of the problems related to this career?
10. What would you do to improve this career in some way?
11. How could you use your creativity or inventiveness in this job?

FIELD TRIPS

Southern Bell

WBTV

THE CHARLOTTE OBSERVER

National Heavy Equipment School

Shaw Furniture Manufacturers

Ralph Squires Construction Company

Skyline Mobile Homes

Central Piedmont Community College

Holiday Inn

Associated Grocers Mutual

Belk Store Services

APPENDIX C
PREFERENCE SCALES
WORK TEMPERATURE

HAVE DONE	NEVER TRIED	KIND OF WORK	HIGH	MODERATE	LOW
		Mowed the lawn			
		Delivered papers			
		Planned a meal			
		Baby sat			
		Polished shoes			
		Sewed on buttons			
		Built a bird house			
		Helped a plumber			
		Held a rummage sale			
		Carried out garbage			
		Put money in the bank			
		Bought own clothes			
		Organized a club			
		Papered a box			
		Helped lay bricks			
		Modeled clothes			
		Cleaned the bathroom			
		Decorated a room			
		Washed the dog			
		Polished silver			
		Sold lemonade			
		Gathered eggs			
		Made a toy			
		Repaired a bike			

HAVE DONE	NEVER TRIED	KIND OF WORK	HIGH	MODERATE	LOW
		Raked leaves			
		Cleaned the garage or basement			
		Ironed clothes			
		Took a clock apart			
		Wrote a poem			
		Weeded the lawn			
		Cleaned fish			
		Directed a play			
		Cooked a meal			
		Made a poster			
		Kept a diary			
		Settled a fight			
		Taught a game			

APPENDIX C Continued

WOULD YOU LIKE TO BE A:

	YES	MAYBE	NO		YES	MAYBE	NO
fireman				teacher			
mailman				receptionist			
policeman				dress designer			
salesman				advertising man			
cook				banker			
lawyer				inventor			
waitress				brickmason			
plumber				floor sander			
carpenter				roofer			
electrician				architect			
TV repairman				grocery store manager			
telephone lineman				laundry manager			
photographer				printing shop manager			
reporter				dress shop manager			
writer							
truck driver							
mechanic							
store clerk							
businessman							
model							
painter							
beautician							
engineer							
real estate salesman							
secretary							

APPENDIX D

In evaluating this unique program in terms of attitudes concerning the value and worth of work, we found no adequate instrument geared to the bright student at these grade levels and directed toward non-baccalaureate careers. As a result, we developed and used the "Work Temperature" and "Would You Like to Be A" preference scales. Both were used on the first and last days that the children attended the laboratory "hands-on" sessions.

Comparisons of the pre-test and post-test results on the "Work Temperature" show several interesting things in changing attitudes and the child's concept of the worth of work following his experiences. Seventy-nine children recorded a change to High Value by the end of the program; 224 recorded a move to Moderate Value; 234 indicated a direction value by moving from Low Value to a higher value level at the end of the program.

On the "Would You Like to Be A" preference scale, the children changed on Yes from 322 to 351; on Maybe 533 to 630; and on No 1059 to 960. In dealing with a preference scale on which the child himself had no input but merely reacted to predetermined careers, we felt the need to insert several vocations which did require a degree. In all but eleven of the listed careers, the post-test indicated the same or a greater interest on the part of the children in reference to a specific career.

Reports from participating children, their parents and their principals indicate that interest and activity involving careers has continued at home after the lab sessions ended. In one specific case, the principal of a local school has been persuaded by her students who attended the institute to establish a career exploration laboratory in her school and to continue this type of experiences for other children. One of the institute participating teachers is in this school and will supply many of the needed resources.

APPENDIX D Continued

WORK TEMPERATURE

INITIAL EXPERIENCE		KIND OF WORK	VALUE OF WORTH					
HAVE DONE	NEVER TRIED		HIGH		MODERATE		LOW	
			PRE	POST	PRE	POST	PRE	POST
42	8	Mowed the lawn	11	14	26	25	13	11
17	33	Delivered papers	11	13	20	24	17	13
32	18	Planned a meal	14	20	17	15	17	15
37	13	Baby sat	20	16	15	19	13	15
45	5	Polished shoes	7	9	16	24	27	17
25	25	Sewed on buttons	4	5	13	27	29	18
21	29	Built a bird house	15	20	23	21	8	9
7	43	Helped a plumber	2	9	15	34	30	7
10	40	Held a rummage sale	9	17	22	23	17	10
49	1	Carried out garbage	2	3	14	20	31	29
39	11	Put money in the bank	36	28	9	16	5	6
35	15	Bought own clothes	24	25	11	19	14	6
40	10	Organized a club	26	24	16	20	8	6
31	19	Papered a box	7	20	23	24	18	6
10	40	Helped lay bricks	9	28	15	18	20	4
18	32	Modeled clothes	11	13	10	19	23	18
37	13	Cleaned the bathroom	5	6	15	27	28	17
30	20	Decorated a room	25	21	15	22	6	7
35	15	Washed the dog	14	15	11	21	22	14
20	30	Polished silver	3	7	12	19	30	24
15	35	Sold lemonade	14	13	15	23	17	14
16	34	Gathered eggs	12	13	14	25	21	12
38	12	Made a toy	16	23	21	23	12	4
39	11	Repaired a bike	14	20	25	25	10	5

INITIAL EXPERIENCE		KIND OF WORK	VALUE OF WORTH					
HAVE DONE	NEVER TRIED		HIGH		MODERATE		LOW	
			PRE	POST	PRE	POST	PRE	POST
44	6	Raked leaves	7	3	12	21	27	16
21	29	Cleaned the garage or basement	2	6	14	26	33	18
36	14	Ironed clothes	10	10	13	27	24	13
19	31	Took a clock apart	21	11	13	22	16	17
47	3	Wrote a poem	24	19	19	17	15	14
26	24	Weeded the lawn	2	8	9	25	37	17
21	29	Cleaned fish	7	11	11	18	30	21
25	25	Directed a play	15	15	20	24	14	11
31	9	Cooked a meal	19	20	17	22	13	8
42	8	Made a poster	25	26	18	19	7	5
23	27	Kept a diary	11	12	17	20	19	18
27	13	Settled a fight	12	15	22	23	15	12
47	3	Taught a game	18	16	25	30	7	4

APPENDIX D Continued

WOULD YOU LIKE TO BE A:

	YES		MAYBE		NO	
	PRE	POST	PRE	POST	PRE	POST
fireman	2	2	18	20	30	28
mailman	6	4	15	18	29	26
police man	9	9	13	17	29	24
salesman	2	2	20	23	28	25
cook	2	6	20	23	28	21
lawyer	20	20	17	16	13	20
waitress	4	5	8	8	38	37
plumber	3	7	10	19	37	24
carpenter	7	6	16	27	27	17
electrician	9	10	17	12	24	28
TV repairman	8	6	9	19	33	25
telephone lineman	9	7	19	19	22	24
photographer	18	20	20	18	12	12
reporter	12	13	23	20	15	17
writer	13	11	19	22	18	17
truck driver	5	6	13	14	32	30
mechanic	10	9	10	17	30	24
store clerk	5	7	18	16	24	27
businessman	15	13	15	19	20	18
model	12	11	6	10	32	29
painter	7	13	11	15	32	22
beautician	2	6	13	10	35	34
engineer	25	15	17	16	8	19
real estate salesman	8	6	10	14	32	30
secretary	7	8	12	14	29	28

	YES		MAYBE		NO	
	PRE	POST	PRE	POST	PRE	POST
teacher	11	14	12	16	27	20
receptionist	4	5	10	8	16	37
dress designer	9	10	11	13	30	27
advertising man	2	5	13	20	30	25
banker	10	6	20	17	20	17
inventor	19	21	15	16	16	13
brickmason	8	11	8	24	34	14
floor sander	1	4	8	15	41	31
roofer	0	3	7	14	42	35
architect	18	23	11	12	21	15
grocery store manager	6	9	10	13	33	28
laundry manager	1	3	9	14	39	33
printing shop manager	5	9	20	13	23	28
dress shop manager	8	10	12	9	30	31
TOTALS	322	351	533	630	1059	960

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